Introduction to Linked Open Data

github.com/cmh2166/SWIB18LODintro

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SWIB 2018, 26 November 2018
Bonn, Germany

Workshop Resources:
github.com/cmh2166/SWIB18LODintro

Workshop Etiquette
(influenced by the Hacker School Rules)

- Feel free to ask questions
- Help others where you can
- Be open to different domain expertise & experiences
- Be kind

More info on the “Hacker School Rules”:

https://www.recurse.com/blog/38-subtle-isms-at-hacker-school

https://www.recurse.com/manual#sub-sec-social-rules

Schedule

13:00 - 13:15	General Workshop Introduction
13:15 - 14:00	RDF Introduction: Create Your Graph
14:00 - 14:30	Linked Data Introduction: Link Your Graph
14:30 - 15:30	Linked Data & Semantic Web: Expand Your Graph
15:30 - 16:00	*30 minute break, **cake** served in the foyer*
16:00 - 16:15	Linked Open Data & Licensing: License Your Graph
16:15 - 17:15	Linked Data Experimentation: SPARQL & Vis.
17:15 - 18:00	Linked Data Examples, Resources & Questions

github.com/cmh2166/SWIB18LODintro

Our Goals for this Workshop

- Introduce & Leverage the RDF data model
- Create & Refine RDF Documents
- Explain Fundamentals of Linked Data Technologies
- Introduce & Discuss Basic Issues of Linked **Open** Data
- Apply Open Data Principles to RDF data
- Understand Pros & Cons of Modeling in RDF
- Understand Pros & Cons of Publishing Linked Data
- Share LOD Tools, Projects, Resources, Examples

Your goals for this Workshop?

- Why are you attending this workshop?
- What are your goals - immediate or long-term?
- What's your level of comfort & experience with any aspect of Linked Data?

RDF Introduction: Create Your Graph

github.com/cmh2166/SWIB18LODintro

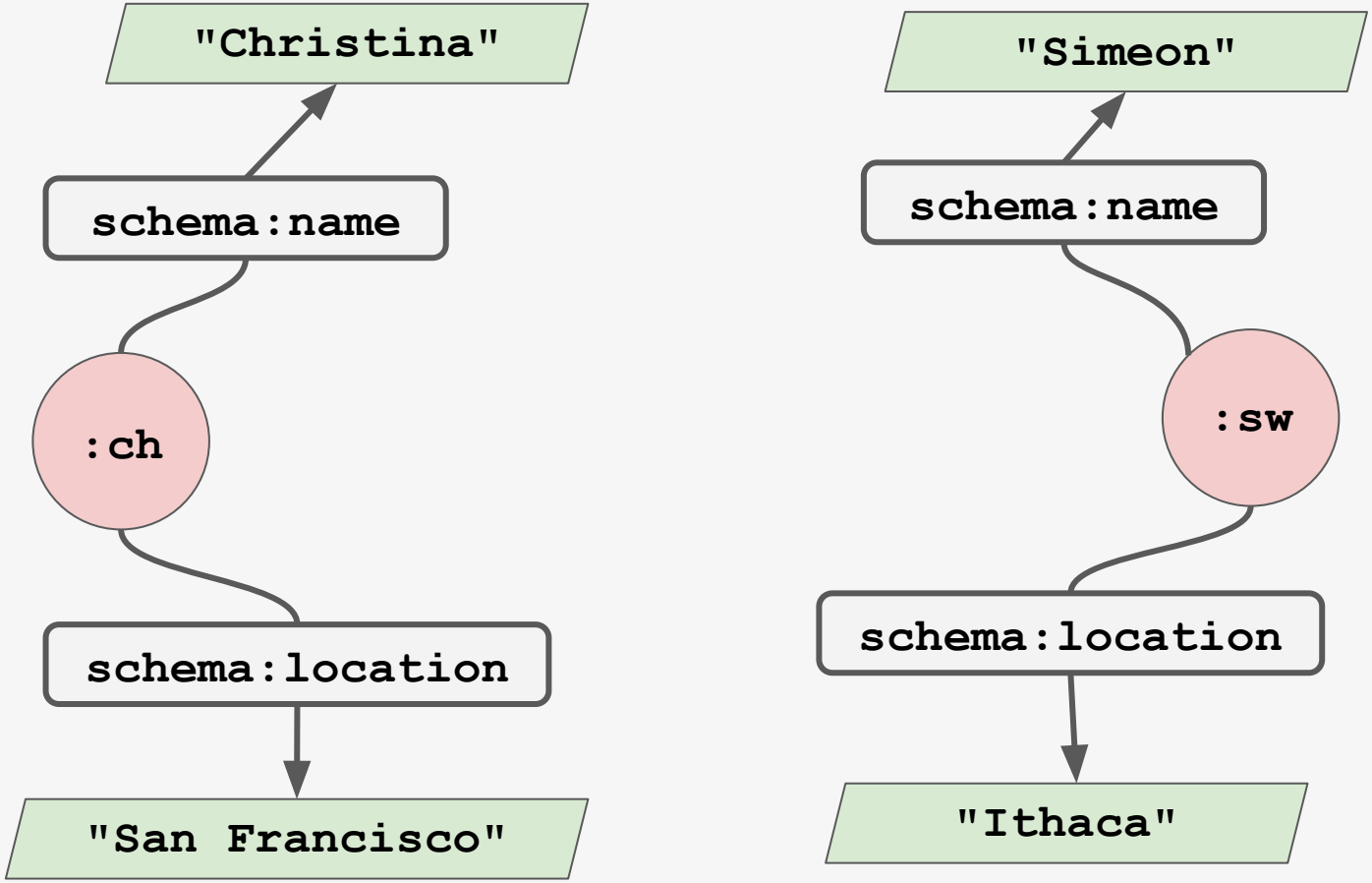
Facilitator's Starter RDF

```
@prefix z: <https://pad.riseup.net/p/swib-18-ws-z#> .
@prefix schema: <http://schema.org/> .

z:ch schema:name "Christina" .
z:ch schema:location "San Francisco" .

z:sw schema:name "Simeon" .
z:sw schema:location "Ithaca" .
```

Resource Description Framework (RDF)

The **Resource Description Framework** (RDF) is used to **describe arbitrary things**.

RDF is based on the concept of **triples**, which consist of **subject**, **predicate** and **object**. It is an abstract model for which several notations exist. Today we will be using **Turtle** for our RDF serialization.



github.com/cmh2166/SWIB18LODintro

Your turn!

1. Get assigned your group.
2. Create your introductory RDF in your group's etherpad.
3. Bookmark your group's etherpad.

github.com/cmh2166/SWIB18LODintro

Linked Data Introduction: Link Your Graph, pt. 1

github.com/cmh2166/SWIB18LODintro

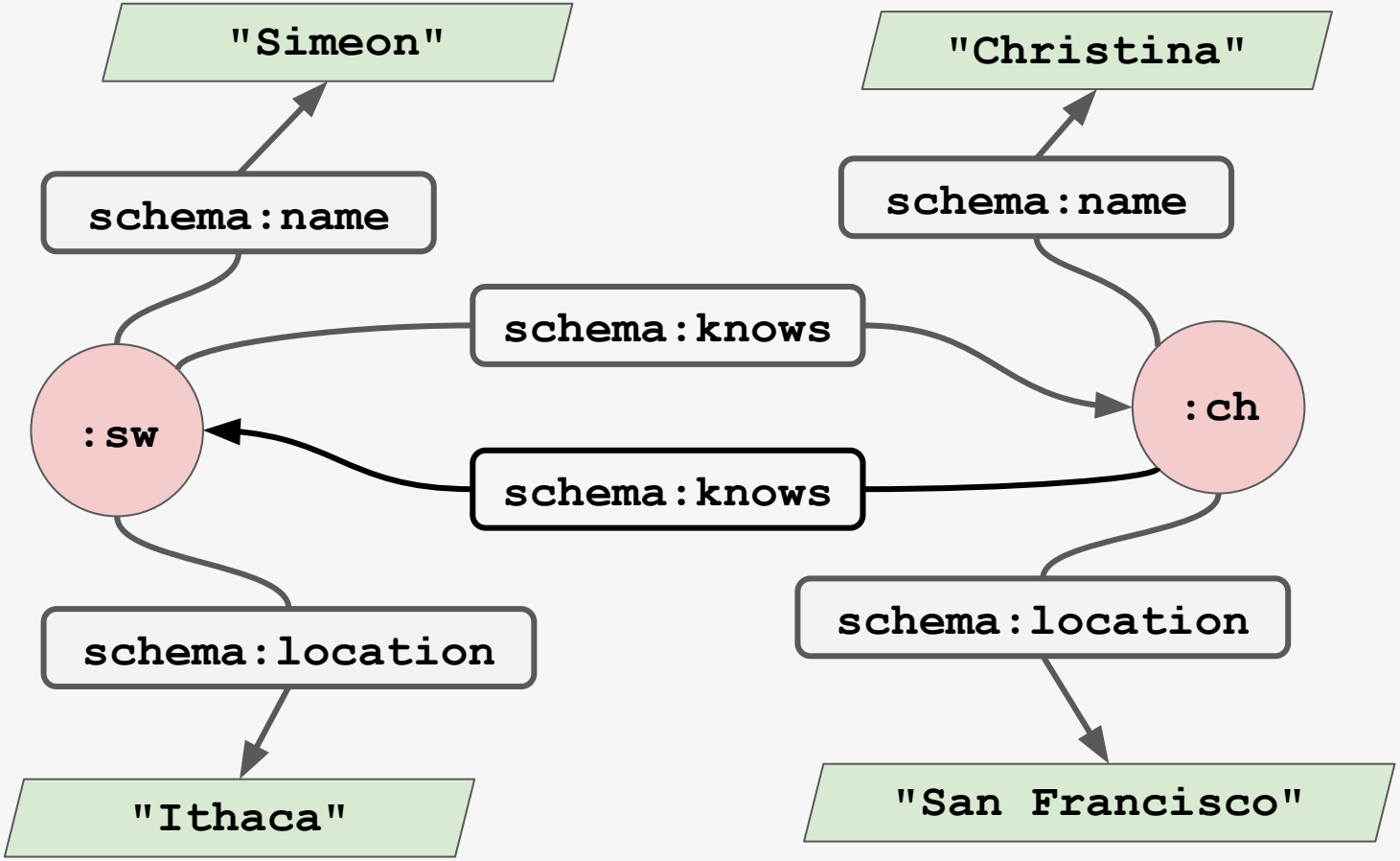
Facilitator's Example

```
@prefix z: <https://pad.riseup.net/p/swib-18-ws-z#> .
@prefix schema: <http://schema.org/> .

z:sw schema:name "Simeon" .
z:sw schema:location "Ithaca" .
z:sw schema:knows z:ch .

z:ch schema:name "Christina" .
z:ch schema:location "San Francisco" .
z:ch schema:knows z:sw .
```

Linked Data

When using RDF, things are **named** by **Uniform Resource Identifiers** (URIs). By describing and linking things, **graphs** emerge - each statement is a graph edge.

Social **networks** such as Facebook or LinkedIn are well-known examples of the graph approach.



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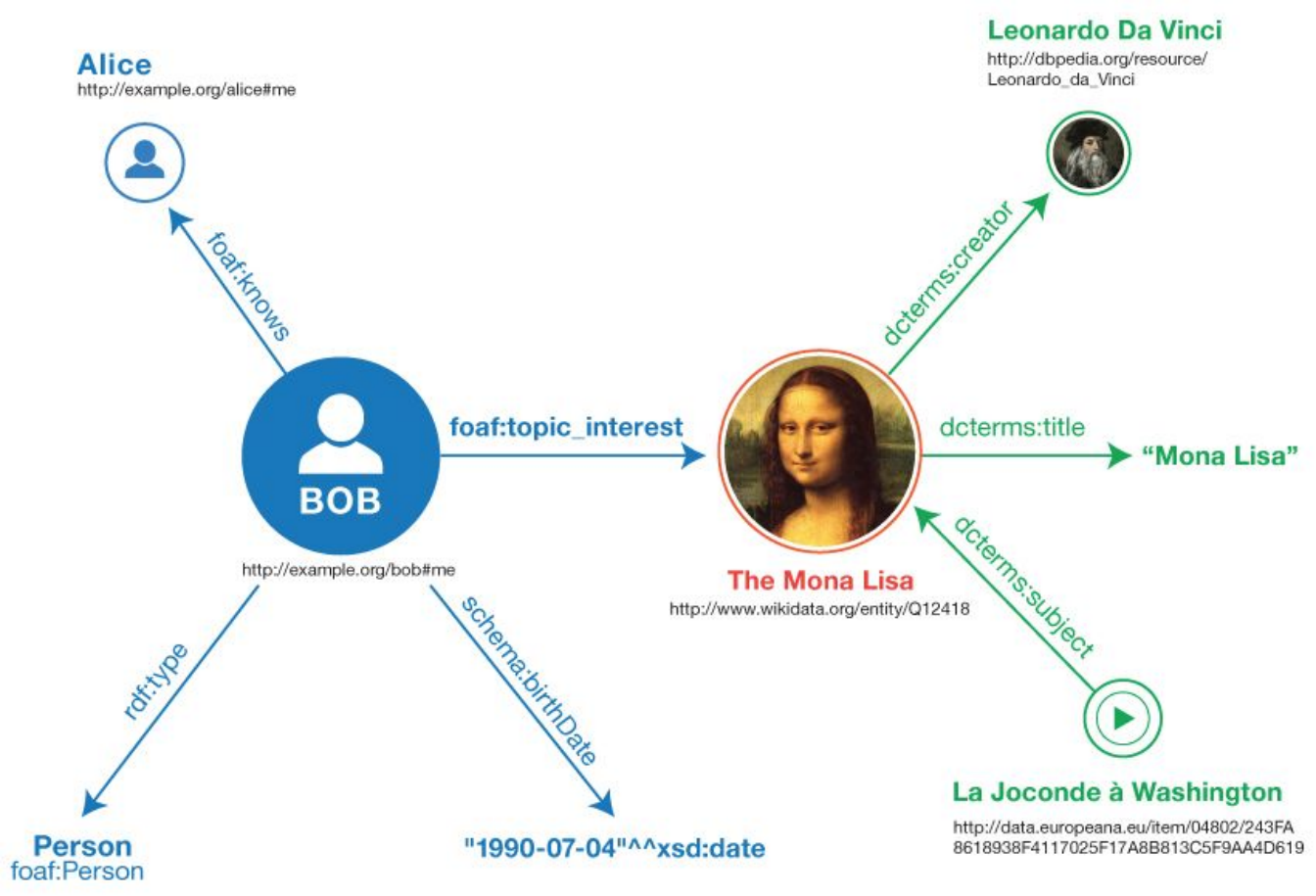
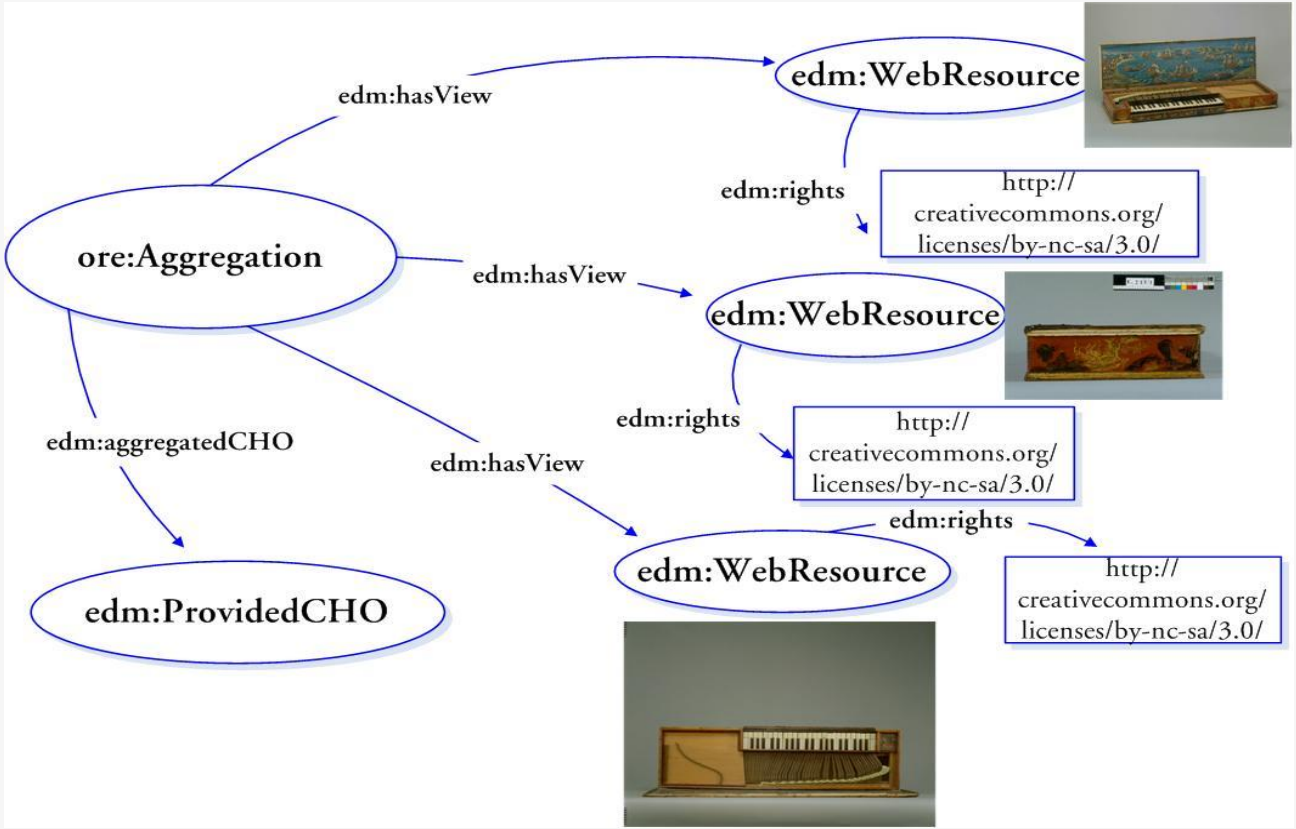


RDF 1.1 Primer - Copyright © 2003-2014 W3C

http://www.w3.org/TR/rdf11-primer/

github.com/cmh2166/SWIB18LODintro

Graphs Let Europeana Grow…



http://pro.europeana.eu/page/mimo-edm

Your turn!

Introduce yourself to the other members of your group. After doing so, document your new acquaintances in the Etherpad data using `schema:knows`.

Linked Data Introduction: Link Your Graph, pt. 2

github.com/cmh2166/SWIB18LODintro

Facilitator's Example

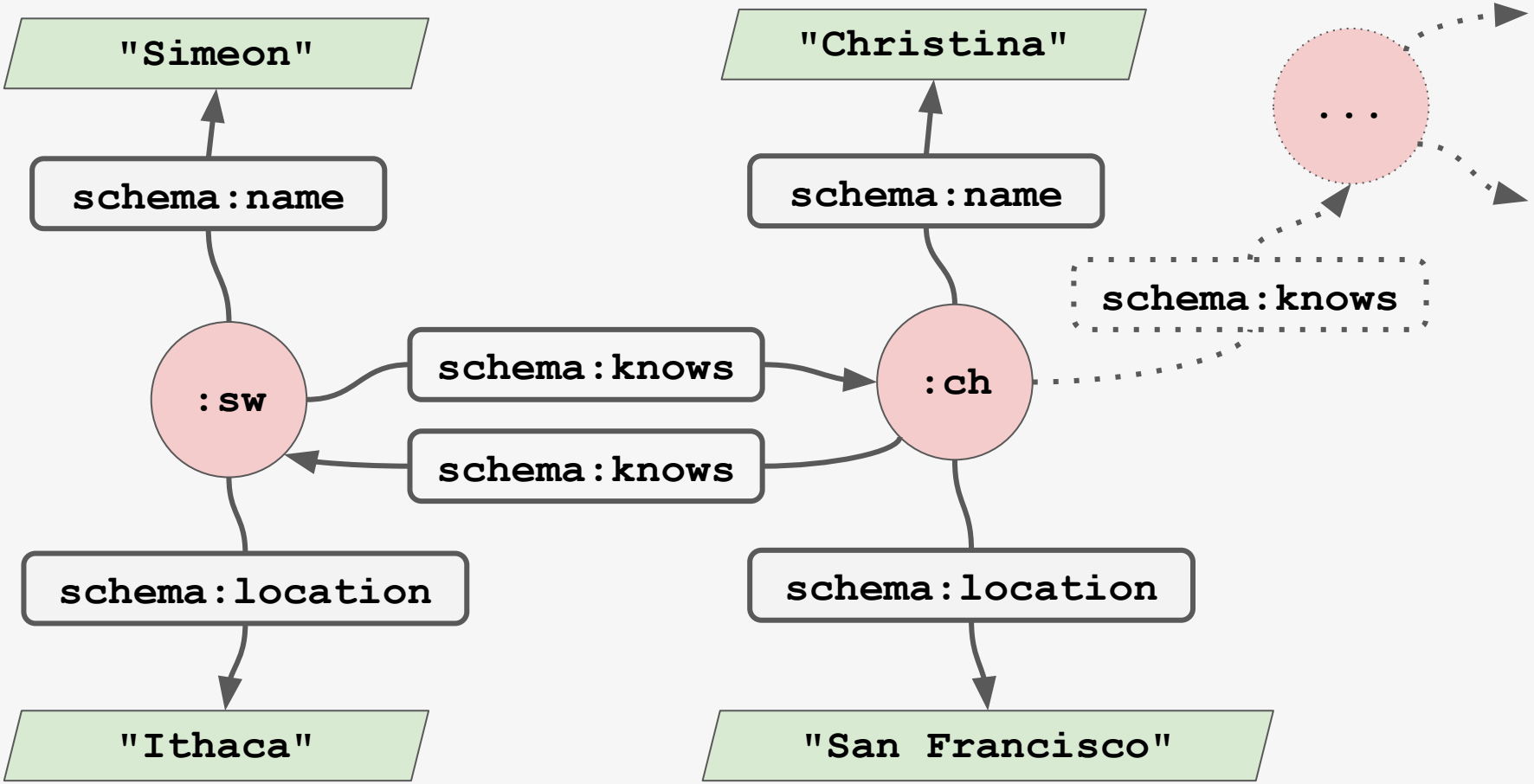
```
@prefix z: <https://pad.riseup.net/p/swib-18-ws-z#> .
@prefix a: <https://pad.riseup.net/p/swib-18-ws-a#> .
@prefix schema: <http://schema.org/> .

z:sw schema:name "Simeon" .
z:sw schema:location "Ithaca" .
z:sw schema:knows z:ch .
z:sw schema:knows a:?? .

z:ch schema:name "Christina" .
z:ch schema:location "San Francisco" .
z:ch schema:knows z:sw .
z:ch schema:knows a:?? .
```

The simple power of the Link

Even a **single link** can greatly **expand** a **graph**, because many new connections can join the network.


"Simeon"
"Christina"
...
schema:name
schema:name
schema:knows
:sw
schema:knows
:ch
schema:knows
schema:location
schema:location
"Ithaca"
"San Francisco"

Your turn!

Extend your set of acquaintances linking out to people beyond your group. As before, document these new connections in the Etherpad.

Turtle Serialization & Syntax Notes

- **Turtle (Terse RDF Triple Language)**: format for expressing data in RDF.
- Each RDF triple starts on new line & ends with a full stop (.).
- **URIs:** Enclosed in angle brackets, i.e. *<http://www.ex.com/ex>*
- **Literals** are written *usually* using double-quotes (“”).
- Blank spaces / white spaces (outside of Literal quotes) are only to separate components of RDF statement.
- **Comments**: Preceded by ‘# ’ & continue to end of line.
- **Prefixes**: Letters preceding colon that are an abbreviation for an ontology namespace URI defined above in the Turtle document.
- **Online Turtle Validator**: http://ttl.summerofcode.be/

Linked Data & the Semantic Web: Expand Your Graph, pt. 1

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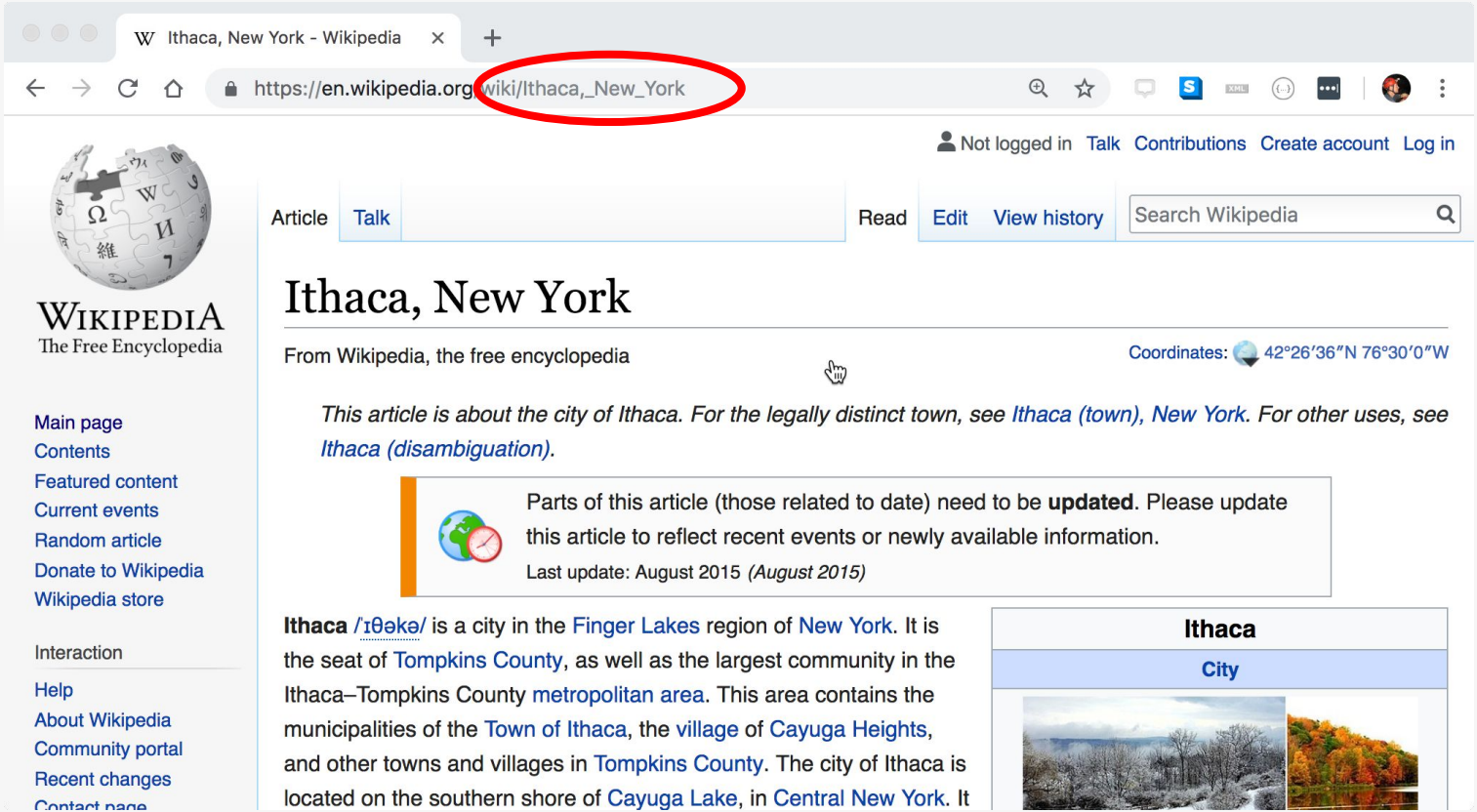
Facilitator's Example



https://en.wikipedia.org/wiki/Ithaca,_New_York

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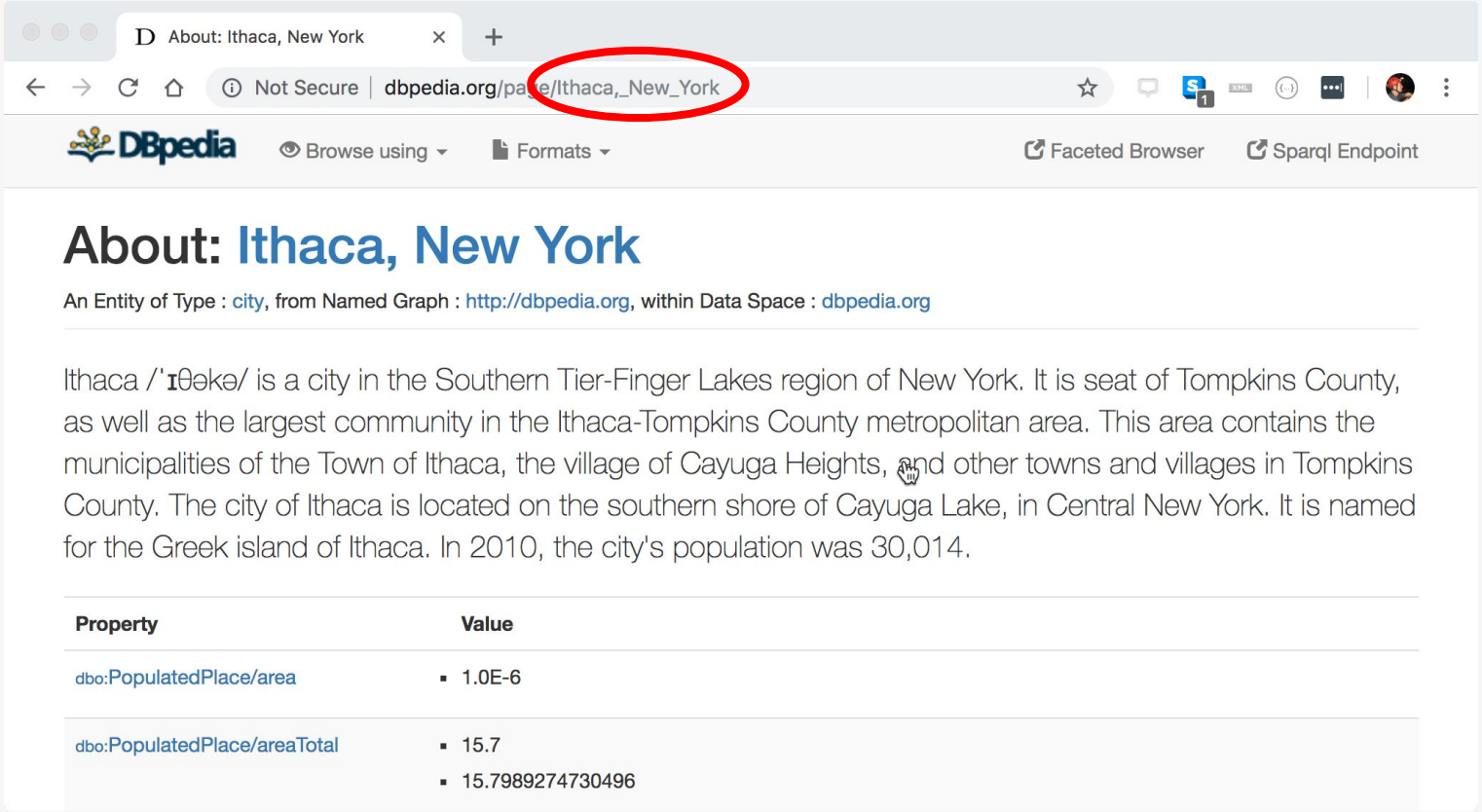
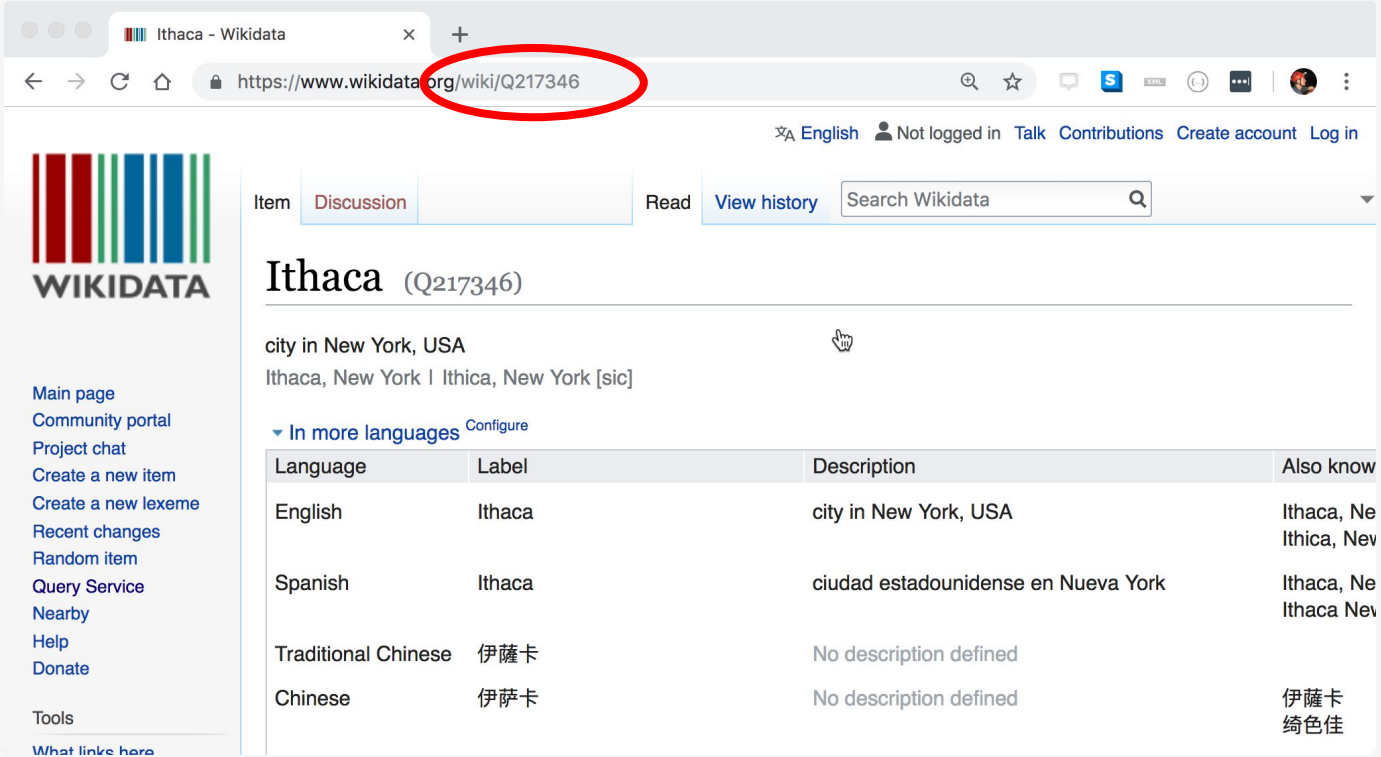
Facilitator's Example



http://dbpedia.org/page/Ithaca,_New_York

Facilitator's Example



https://www.wikidata.org/wiki/Q217346

Facilitator's Example

```
@prefix z: <https://pad.riseup.net/p/swib-18-ws-z#> .
@prefix schema: <http://schema.org/> .
@prefix dbr: <http://dbpedia.org/resource/> .
@prefix wikidata: <http://www.wikidata.org/entity/> .

z:sw schema:name "Simeon" .
…
z:sw schema:location dbr:Ithaca\,_New_York .
z:sw schema:location wikidata:Q217346 .

...[truncated example data]
```

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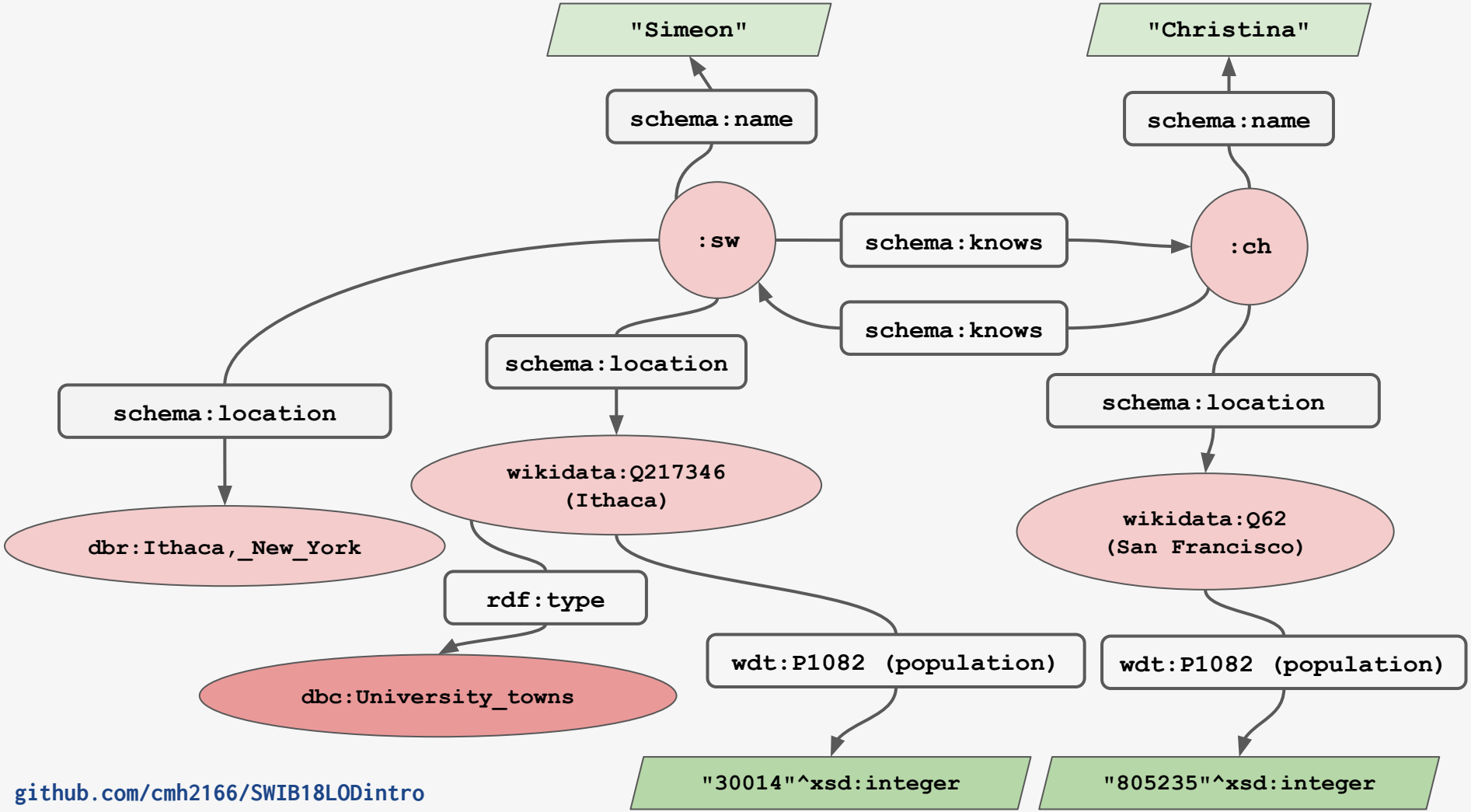

github.com/cmh2166/SWIB18LODintro

The Giant Global Graph

By using **HTTP-URIs**, Linked Data builds upon a technology that is proven to **scale** globally. With reference to the World Wide Web, the term **Giant Global Graph** is sometimes used. What is true for the WWW is also true for the GGG: **Anyone can say anything about anything**.

Linked Data Principles

Tim Berners-Lee

1. Use URIs as names for things
2. Use HTTP URIs so that things can be looked up
3. When someone looks up a URI, provide useful information, using the standards (RDF*, SPARQL)
4. Include links to other things so that they can discover more things.

https://www.w3.org/DesignIssues/LinkedData.html

Your turn!

First, find your location in Wikipedia.

Then, replace the name of your location in your RDF with a reference to DBpedia (or other vocabulary) using the Wikipedia **URI**.

Linked Data & the Semantic Web: Expand Your Graph, pt. 2

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Facilitator's Example

https://en.wikipedia.org/wiki/Music

Apps Bookmarks weather Cornell Documentation Conferences Tools To Read Financial Other Bookmarks

Not logged in Talk Contributions Create account Log in

Article Talk Read View source View history Search Wikipedia

WIKIPEDIA
The Free Encyclopedia

Main page
Contents
Featured content
Current events
Random article
Donate to Wikipedia
Wikipedia store

Interaction
Help
About Wikipedia
Community portal
Recent changes
Contact page

Tools
What links here

Music

From Wikipedia, the free encyclopedia

For other uses, see Music (disambiguation).

Music is an art form and cultural activity whose medium is sound and silence, which exist in time. The common elements of music are pitch (which governs melody and harmony), rhythm (and its associated concepts tempo, meter, and articulation), dynamics (loudness and softness), and the sonic qualities of timbre and texture (which are sometimes termed the "color" of a musical sound). Different styles or types of music may emphasize, de-emphasize or omit some of these elements. Music is performed with a vast range of instruments and vocal techniques ranging from singing to rapping; there are solely instrumental pieces, solely vocal pieces (such as songs without instrumental accompaniment) and pieces that combine singing and instruments. The word derives from Greek μουσική (*mousike*; "art of the Muses").[1] In its most general form, the activities describing music as an art form include the production of works of music (songs, tunes, symphonies, and so on), the criticism of music, the study of the history of music, and the aesthetic examination of music. Ancient Greek and Indian philosophers defined music as tones ordered horizontally as melodies and vertically as harmonies. Common sayings such as "the harmony of the spheres" and "it is music to my ears" point to the notion that music is often ordered and pleasant to listen to. However, 20th-century composer John Cage thought that any sound can be music, saying, for example, "There is no noise, only sound."[2]

Music

A painting on an ancient Greek vase depicts a music lesson (c. 510 BCE).

Medium	Sound, silence, time
Originating culture	Various
Originating era	Paleolithic era

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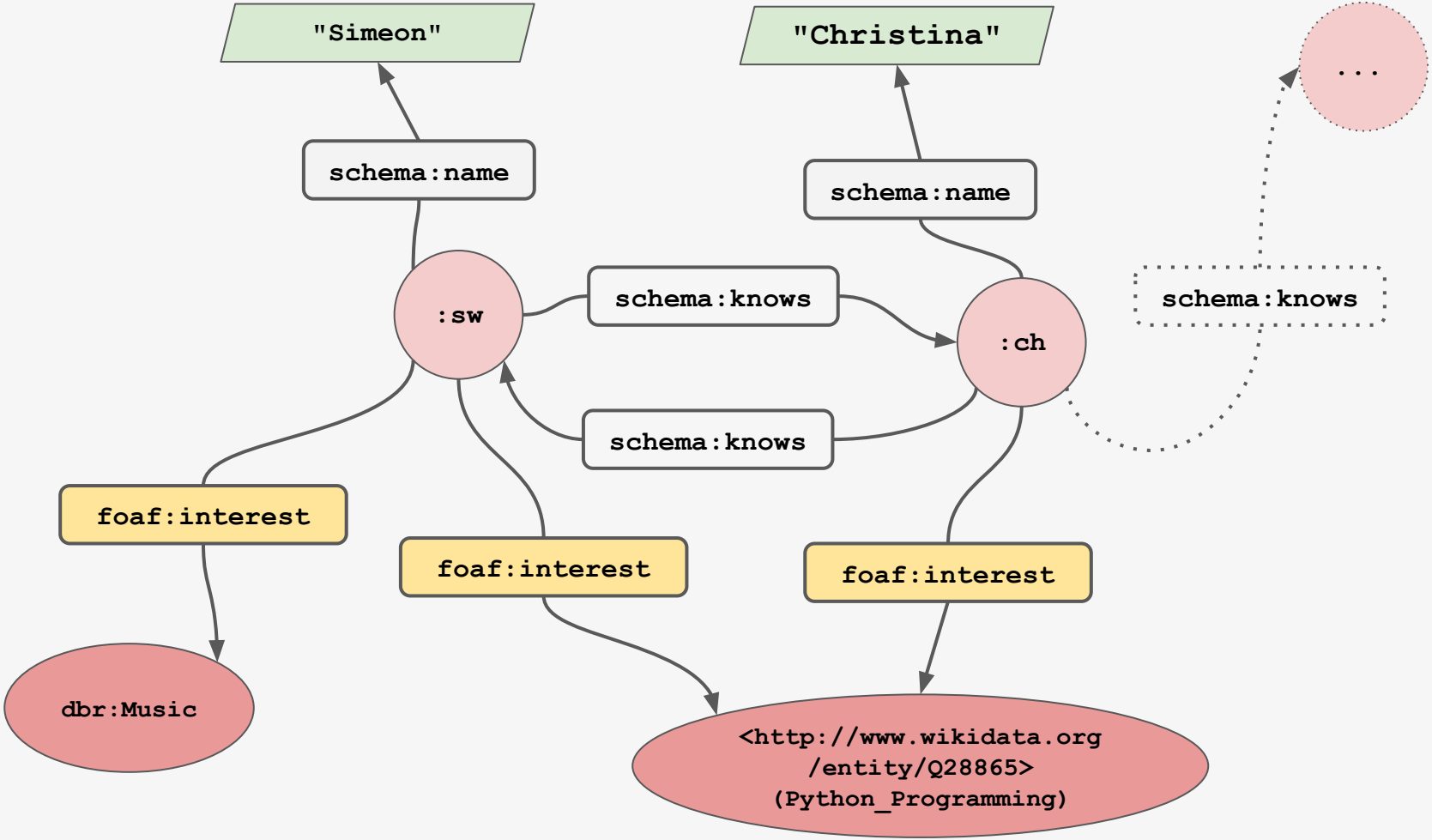
Facilitator's Example

```
@prefix z: <https://pad.riseup.net/p/swib-18-ws-z#> .
@prefix schema: <http://schema.org/> .
@prefix dbr: <http://dbpedia.org/resource/> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .

z:sw schema:name "Simeon" .
z:sw schema:location wikidata:Q217346Ithaca\,_New_York .
z:sw schema:knows z:ch .
z:sw foaf:interest dbr:Music .
z:sw foaf:interest dbr:Caving .
Z:sw foaf:interest dbr:IIIF .

...[truncated example data]
```



github.com/cmh2166/SWIB18LODintro

Your turn!

Enhance your profile with interest you have. Again, refer to DBpedia or Wikidata (or other) entries to do so, remembering to use entity URIs, not page URLs.

validate: http://ttl.summerofcode.be

Linked Data & the Semantic Web: Expand Your Graph, pt. 3

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Element Sets

- FOAF (Friend of a Friend)
- vcard (people and organisations)
- schema.org
- geo (to express geo-coordinates)
- Void (to describe datasets)
- Prov (provenance information)
- … and many more.
- See:
  - Linked Open Vocabularies (LOV) to look up ontologies & vocabularies
  - prefix.cc to look up namespaces

Library-Related Element Sets

- Dublin Core Metadata Terms
- Simple Knowledge Organisation System (SKOS)
  - Examples of Vocabularies using SKOS: Agrovoc, STW Thesaurus for Economics, many small controlled vocabularies (for example, RDA value vocabularies)
  - SKOS schemas in BARTOC: http://bartoc.org/en/search/advanced?f[0]=field_format%3A24
- GND Ontology, Getty Authorities Ontology
- RDA Elements sets
- EDM (Europeana Data Model)
- BIBFRAME (Version 2.0)
- And a growing number more…

Instance Datasets & Vocabularies

- DBpedia, Wikidata
- BNF, BL, BNE, DNB, LoC, …
- GeoNames
- VIAF, ORCID

See datahub.io for many more ...

30 minutes Break
(Return at 16:05)

Linked Open Data & Data Licensing: License Your Graph

github.com/cmh2166/SWIB18LODintro

“Open”?

*“Open data and content can be **freely used, modified, and shared** by **anyone** for **any purpose**”*

The Open Definition

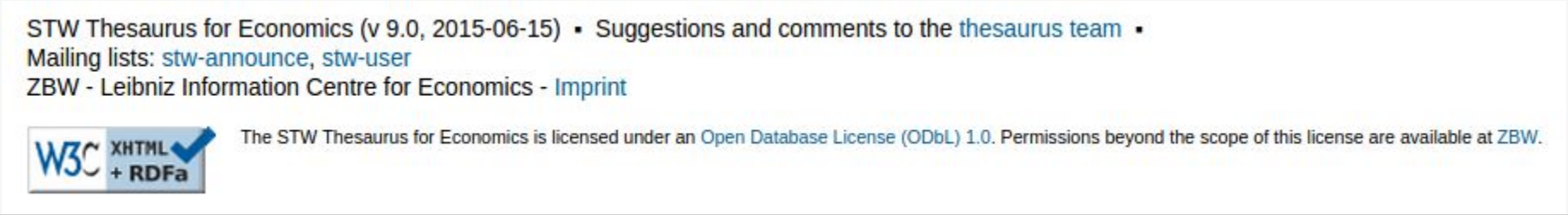
Openness involves...

- **Access**: no passwords, API keys, quantity restrictions, etc.
- **License**: restrictions inhibit reuse
  - CC0, PDDL
  - ODC-By, ODbL, CC-BY, CC-BY-SA
  - *no* non-commercial (NC) licenses
- **Formats**: no proprietary formats without freely accessible specification. Supports reuse of data

Some Data License Options

- CC0 1.0 Universal: “Creative Commons public domain waiver”, creativecommons.org/publicdomain/zero/1.0/
- Public Domain Dedication and License (PDDL): “Public Domain for data/databases”, opendatacommons.org/licenses/pddl/
- Open Data Commons Attribution (ODC-By): “Attribution for data/databases”,opendatacommons.org/licenses/by/
- Open Database License (ODC-ODbL): “Attribution Share-Alike for data/databases”,opendatacommons.org/licenses/odbl/

Licensing data




```
@prefix cc: <http://creativecommons.org/ns#> .

<http://zbw.eu/stw>
  cc:attributionName "ZBW - Leibniz Information Centre for
    Economics"@en, "ZBW - Leibniz-Informationszentrum Wirtschaft"@de ;
  cc:attributionURL "http://zbw.eu" ;
  dcterms:rights "see cc:license"@en, "siehe cc:license"@de ;
  cc:license <http://opendatacommons.org/licenses/odbl/1-0/> ;
  …
```

github.com/cmh2166/SWIB18LODintro

http://zbw.eu/stw/version/latest/download/about.en.html

Other GLAM-focused Open Data/Licenses

- RightsStatement.org (for Digital Objects)
- Europeana Dataset
- DPLA (Digital Public Library of America) Dataset
- Getty Vocabularies & Ontology
- Data on the Web Best Practices W3C Recommendation Section on Licensing
- Share-PSI (Public Sector Information) Localised Guide Pages for Open Data

Moving towards 5 Star Linked Data

★ make your stuff available on the Web (whatever format) under an open license

★★ make it available as structured data (e.g., Excel instead of image scan of a table)

★★★ make it available in a non-proprietary open format (e.g., CSV as well as of Excel)

★★★★ use URIs to denote things, so that people can point at your stuff

★★★★★ link your data to other data to provide context

Facilitator's Example

```
@prefix z: <https://pad.riseup.net/p/swib-18-ws-z#> .
@prefix dbr: <http://dbpedia.org/resource/> .
@prefix wikidata: <http://www.wikidata.org/entity/> .
@prefix schema: <http://schema.org/> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .
@prefix dcterms: <http://purl.org/dc/terms/> .

<> dcterms:creator z:sw .
<> dcterms:creator z:ch .
<> schema:license <https://creativecommons.org/publicdomain/zero/1.0/>.

… [truncated example data]
```

Your turn!

Allow the reuse of your data. To do so, document your authorship (add dcterms:creator) and apply a CC0 or another license as you see fit (add schema:license).Also try dates (add dcterms:created and/or dcterms:modified)

Linked Data Experimentation: SPARQL & Visualization(s)

github.com/cmh2166/SWIB18LODintro

SPARQL

Triplestores & SPARQL

Scattered machine readable descriptions are useful, but we can do better! RDF is a **distributed data** model which makes it easy to **combine descriptions**. Special databases called **triplestores** exist that allow to query the aggregated data using the query language **SPARQL**.

SPARQL Query General Form

```
PREFIX wd: <http://www.wikidata.org/entity/>
PREFIX wdt: <http://www.wikidata.org/prop/direct/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

# House cats with pictures and labels in German on Wikidata
SELECT ?item ?itemLabel ?pic
WHERE {
  ?item wdt:P31 wd:Q146 .
  ?item wdt:P18 ?pic .
  ?item rdfs:label ?itemLabel .
  FILTER langMatches( lang(?itemLabel), "DE" )
}
```

https://goo.gl/S3rbV2 & better version:https://goo.gl/u9cn3m

https://www.w3.org/TR/rdf-sparql-query/

Names of Participants

SPARQL ENDPOINT: swib | CONTENT TYPE (SELECT): JSON | CONTENT TYPE (GRAPH): Turtle

```
1  # Names of Workshop Participants
2
3  PREFIX schema: <http://schema.org/>
4
5  SELECT * WHERE {
6    ?person schema:name ?name .
7  }
```

QUERY RESULTS

Table | Raw Response

Showing 1 to 50 of 50 entries

Search: | Show 50 entries

	person	name
1	<http://etherpad.lobid.org/p/swib16-ws-f#hs>	"Helena"
2	<https://pad.riseup.net/p/swib-18-ws-facilitators#ub>	"Uldis"

github.com/cmh2166/SWIB18LODintro

Acquaintances

SPARQL ENDPOINT: swib | CONTENT TYPE (SELECT): JSON | CONTENT TYPE (GRAPH): Turtle

```
1  # Acquaintances of workshop participants
2
3  PREFIX schema: <http://schema.org/>
4
5  SELECT * WHERE {
6    ?who schema:knows ?whom .
7  }
```

QUERY RESULTS

Table | Raw Response

Showing 1 to 50 of 252 entries

Search: | Show 50 entries

	who	whom
1	<https://pad.riseup.net/p/swib-17-ws-facilitators#ch>	<http://etherpad.lobid.org/p/swib16-ws-b#aj>
2	<https://pad.riseup.net/p/swib-17-ws-3#mb>	<https://pad.riseup.net/p/swib-17-ws-facilitators#uk>
3	<http://etherpad.lobid.org/p/swib16-ws-c#va>	<http://etherpad.lobid.org/p/swib16-ws-c#rr>
4	<https://pad.riseup.net/p/swib-17-ws-facilitators#ch>	<http://etherpad.lobid.org/p/swib16-ws-c#rr>

Acquaintances by Name

SPARQL ENDPOINT: swib

CONTENT TYPE (SELECT): JSON

CONTENT TYPE (GRAPH): Turtle

```
1  # Acquaintances of workshop participants by name
2
3  PREFIX schema: <http://schema.org/>
4
5  SELECT ?namewho ?namewhom WHERE {
6    ?who schema:knows ?whom .
7    ?who schema:name ?namewho .
8    ?whom schema:name ?namewhom .
9  }
```

QUERY RESULTS

Table | Raw Response

Showing 1 to 50 of 238 entries

Search: Show 50 entries

	namewho	namewhom
1	"Volker"	"Renee"
2	"Christina"	"Renee"

github.com/cmh2166/SWIB18LODintro

Localities and Countries

SPARQL ENDPOINT: swib

CONTENT TYPE (SELECT): JSON

CONTENT TYPE (GRAPH): Turtle

```
1  # Localities and Countries of workshop participants
2
3  PREFIX schema: <http://schema.org/>
4  PREFIX dbo: <http://dbpedia.org/ontology/>
5
6  SELECT * WHERE {
7    ?person schema:location ?place .
8    ?place dbo:country ?country .
9  }
```

QUERY RESULTS

Table | Raw Response

Showing 1 to 11 of 11 entries

Search: Show 50 entries

	person	place	country
1	<http://etherpad.lobid.org/p/swib16-ws-g#ls>	<http://dbpedia.org/resource/Gothenburg>	<http://dbpedia.org/resource/Sweden>
2	<https://pad.riseup.net/p/swib-18-ws-facilitators#ub>	<http://dbpedia.org/resource/Riga>	<http://dbpedia.org/resource/Latvia>

github.com/cmh2166/SWIB18LODintro

Shared Interests

SPARQL ENDPOINT: swib | CONTENT TYPE (SELECT): JSON | CONTENT TYPE (GRAPH): Turtle

```
# Shared Interests of workshop participants
PREFIX schema: <http://schema.org/>
PREFIX dbo: <http://dbpedia.org/ontology/>
PREFIX z: <https://pad.riseup.net/p/swib-17-ws-facilitators#>
PREFIX foaf: <http://xmlns.com/foaf/0.1/>
SELECT * WHERE {
  z:ub foaf:interest ?interest .
  ?person foaf:interest ?interest .
  FILTER (?person != z:ub)
}
```

QUERY RESULTS

Table | Raw Response

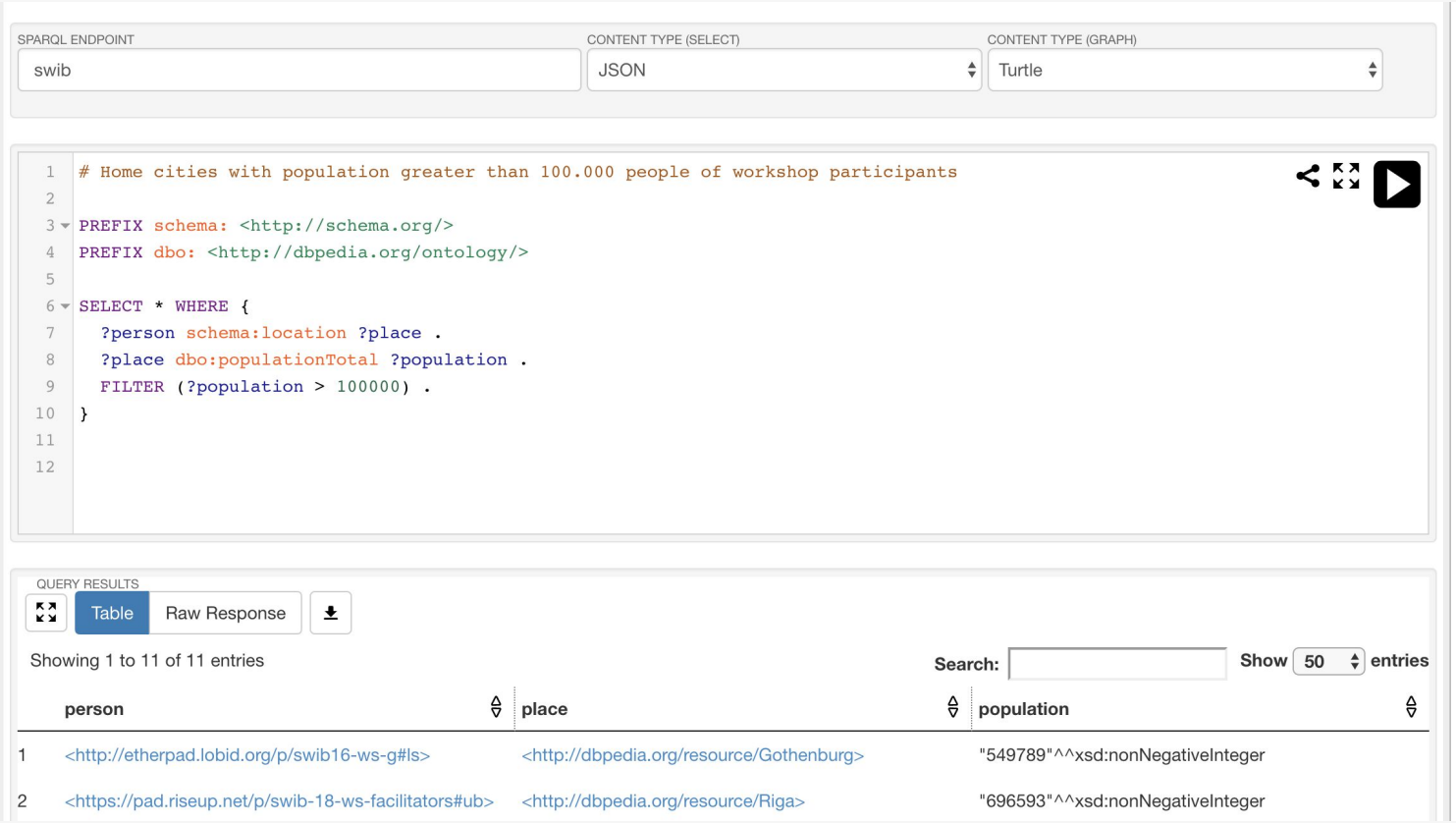
Showing 1 to 13 of 13 entries

Search: | Show 50 entries

	interest	person
1	<http://dbpedia.org/resource/Music>	<http://etherpad.lobid.org/p/swib16-ws-c#rr>
2	<http://dbpedia.org/resource/Music>	<https://pad.riseup.net/p/swib-18-ws-facilitators#sw>

github.com/cmh2166/SWIB18LODintro

Metropolitans (Cities of certain size)



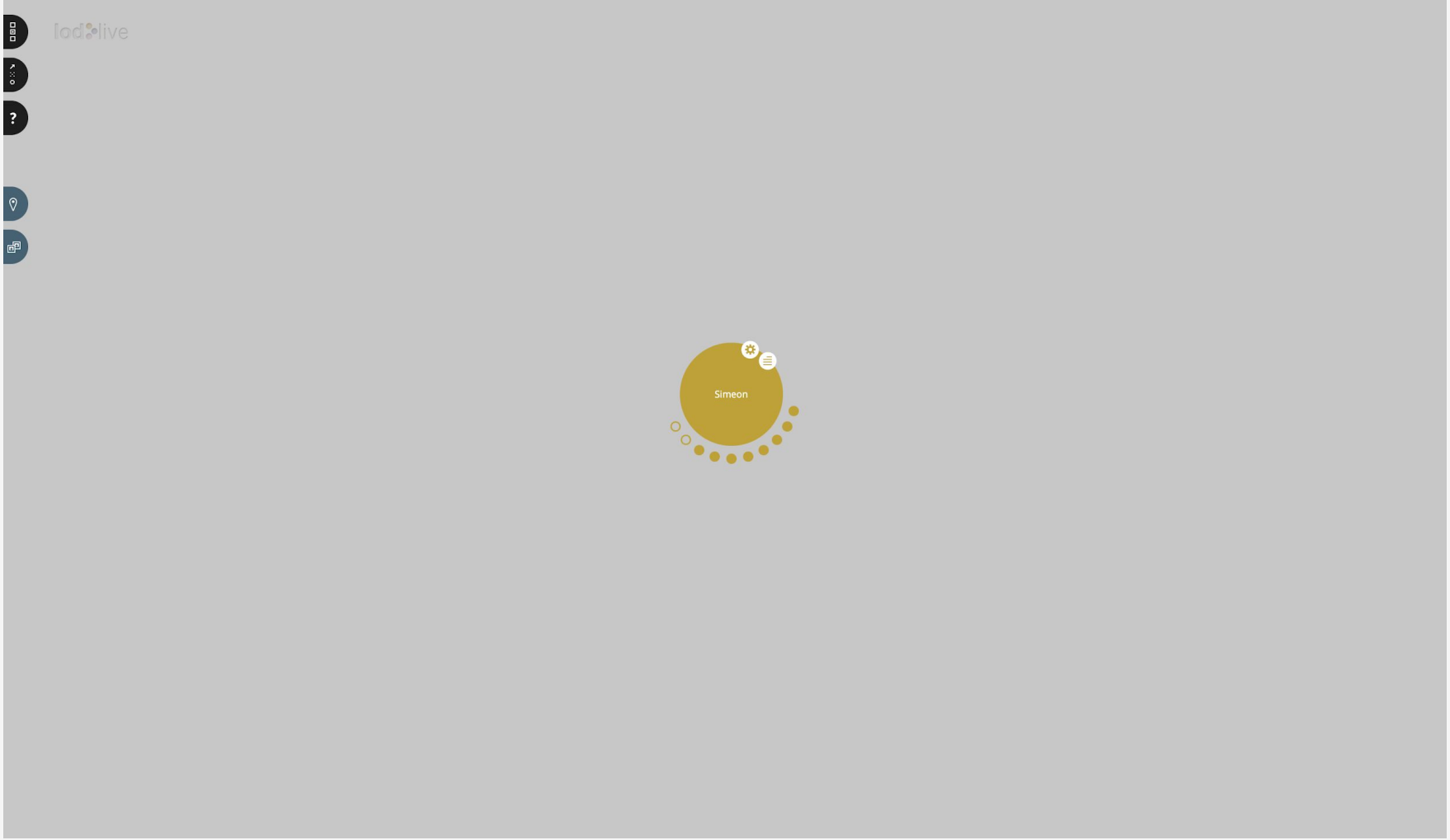
github.com/cmh2166/SWIB18LODintro

LODLive Visualization

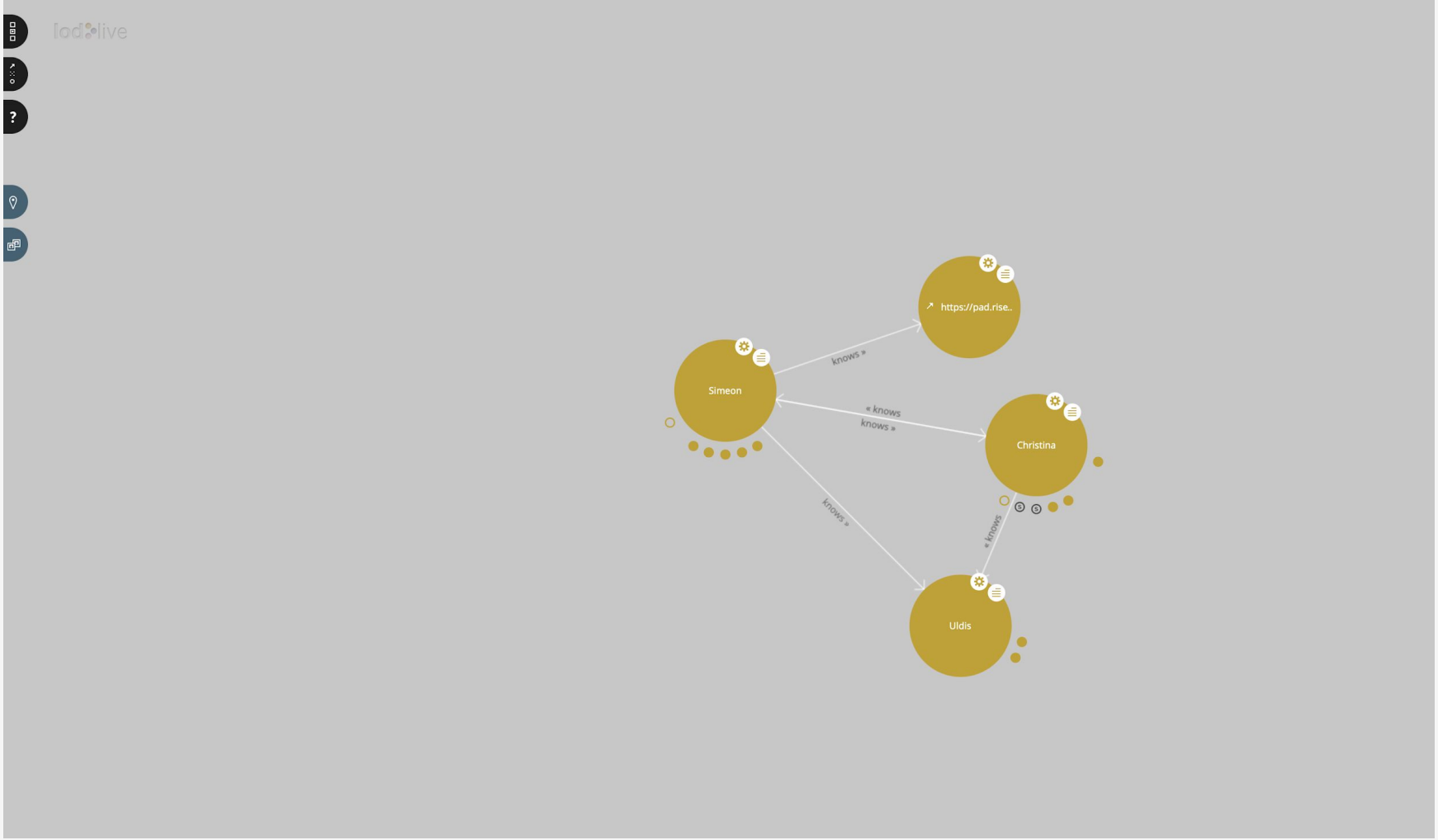
github.com/cmh2166/SWIB18LODintro

About LODLive

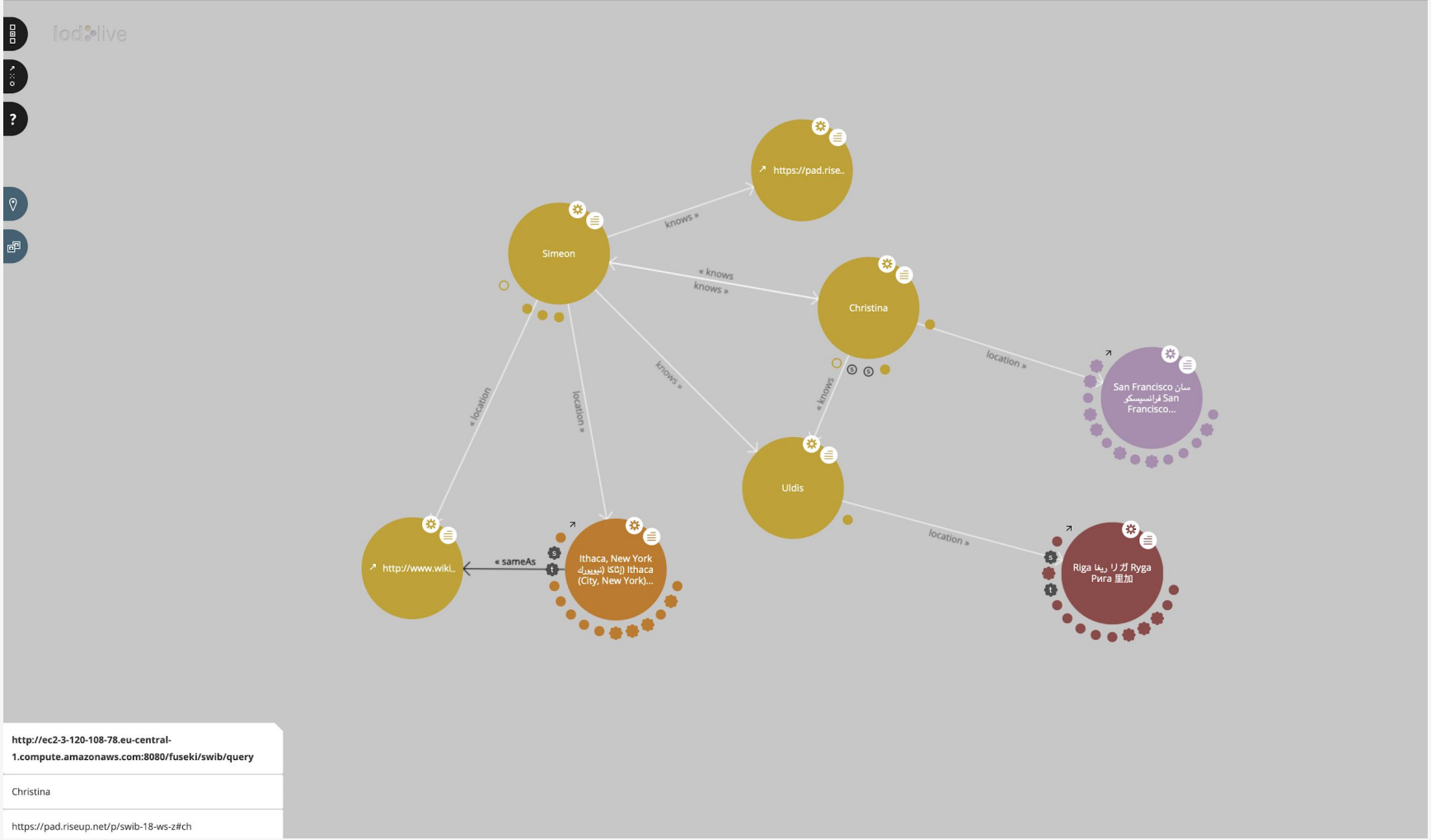
- Uses Linked Data standards (RDF, SPARQL) to browse RDF data.
- Spread Linked Data Ideas through Easy & Reusable Interface.
- Browse by Querying Endpoint for Specific Resource or Start from a Given Example URI.
- LODLive built with:
  - jQuery plug-in (lodlive-core.js)
  - JSON configuration map (lodlive-profile.js)
  - HTML page with a few images (sprites)
  - Few other jQuery public plug-ins
- http://en.lodlive.it/ & https://github.com/dvcama/LodLive



github.com/cmh2166/SWIB18LODintro



github.com/cmh2166/SWIB18LODintro



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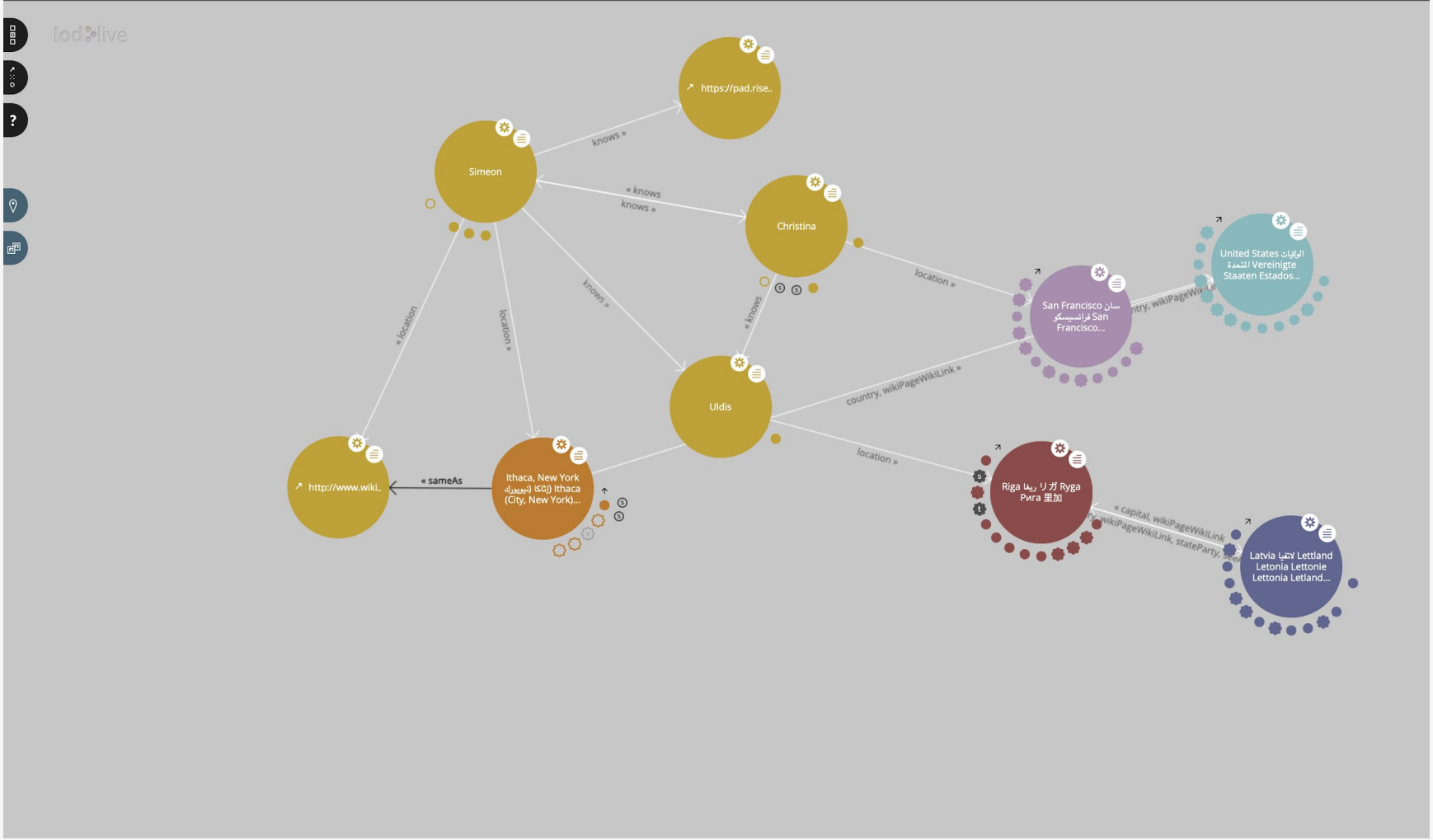
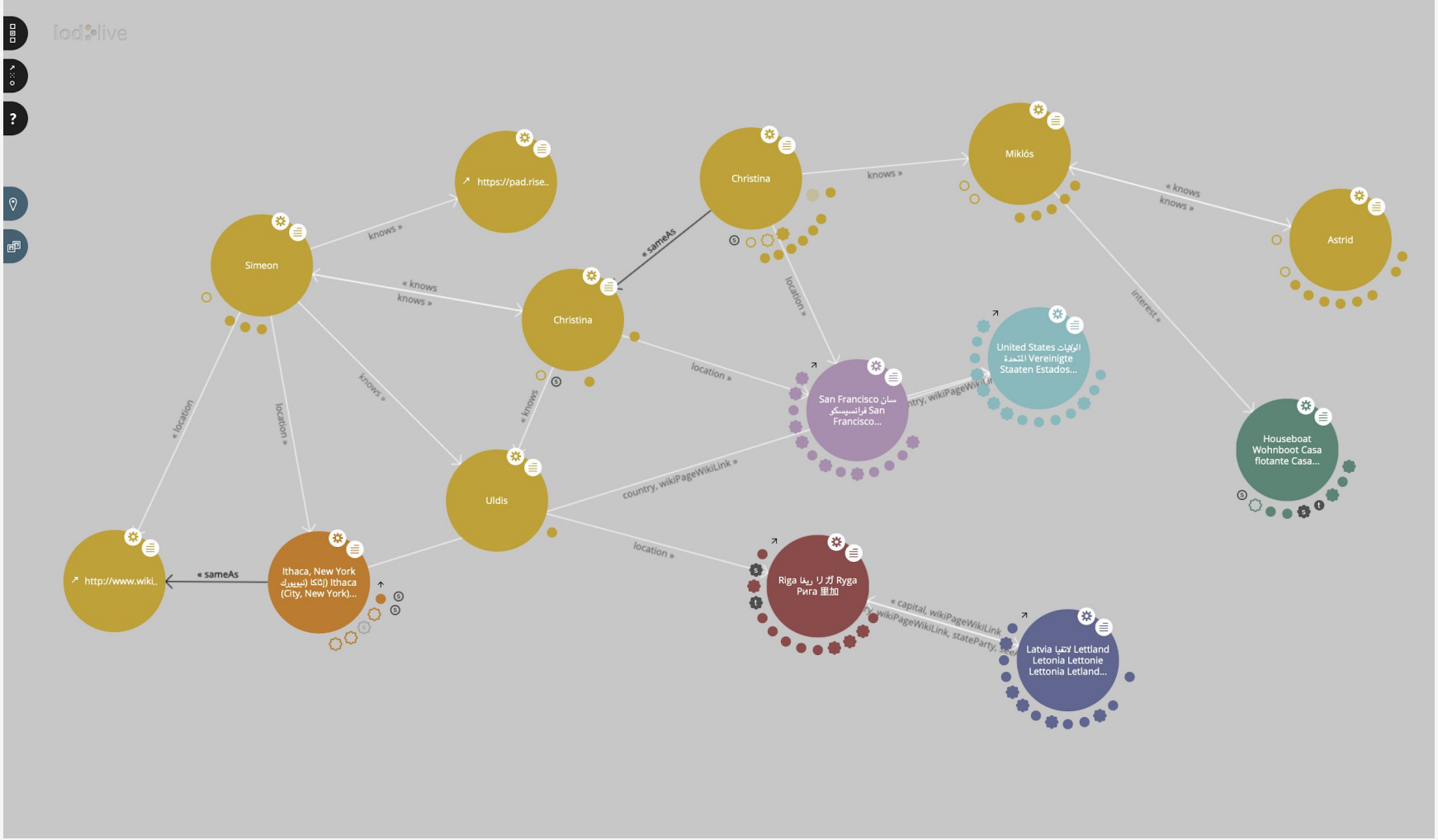


github.com/cmh2166/SWIB18LODintro



github.com/cmh2166/SWIB18LODintro

Your turn!

Explore your social network using the SPARQL Endpoint and the LodLive visualization.

Links & queries here:
github.com/cmh2166/SWIB18LODintro/blob/master/Resources.md

Linked Data Examples, Resources & Projects

github.com/cmh2166/SWIB18LODintro

Overview of Some (More) Linked Data Technologies

github.com/cmh2166/SWIB18LODintro

SPARQL & Triplestores

- Triplestores are like SQL databases, but Optimised to manage Triples or RDF statements
- SPARQL isn’t just for Querying - e.g. SPARQL update
- Triplestores versus Graph Stores
- Some Triplestores:
  - Apache Jena Fuseki (easy to set up and play)
  - Apache Jena TDB
  - Blazegraph and AWS Neptune
  - Virtuoso, Stardog, Marmotta, …

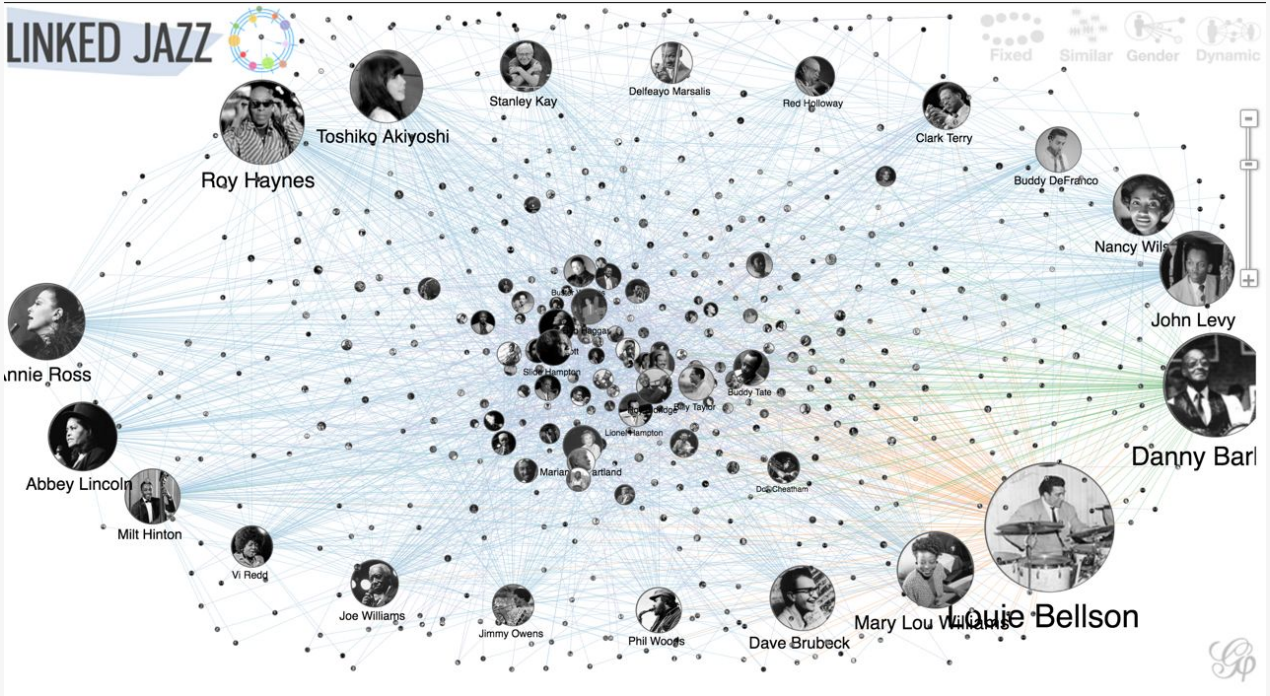
Random Other RDF Tech

- W3C RDF Validator (expects RDF/XML)
- Turtle Validator
- SHACL (Shapes Constraint Language), ShEx (Shapes Expr.)
- Structured Data (RDFa) Linter (See what structured data machines can pick up from your website)
- Python RDFLib (Library for working with RDF in Python)
- Ruby RDF.rb (Library for working with RDF in Ruby)
- Raptor (RDF Parsers written in C that are used in many other programming libraries with RDF)

Overview of Some Linked Data Projects & Tools

github.com/cmh2166/SWIB18LODintro

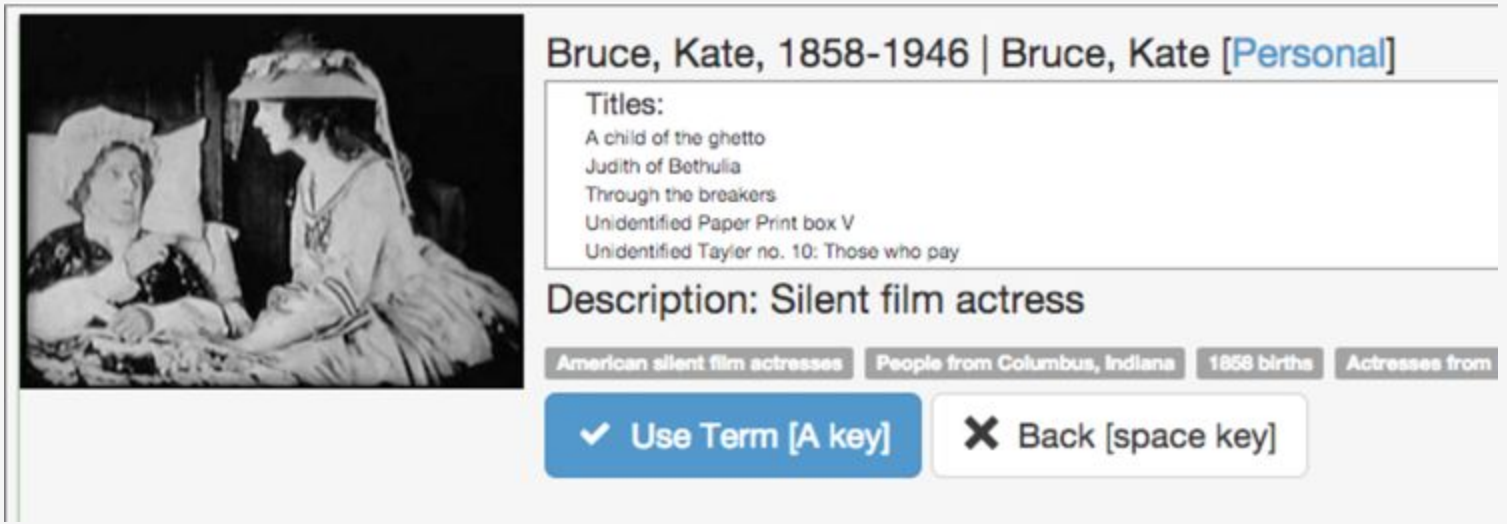
Linked Jazz: Network Viz



linkedjazz.org/network/

github.com/cmh2166/SWIB18LODintro

Linked Jazz: Ecco!



linkedjazz.org/tools/ecco/

NYPL Labs B.I.L.L.I.

(Bibliographic Identifiers for Library Location Information)

billi.nypl.org

github.com/cmh2166/SWIB18LODintro

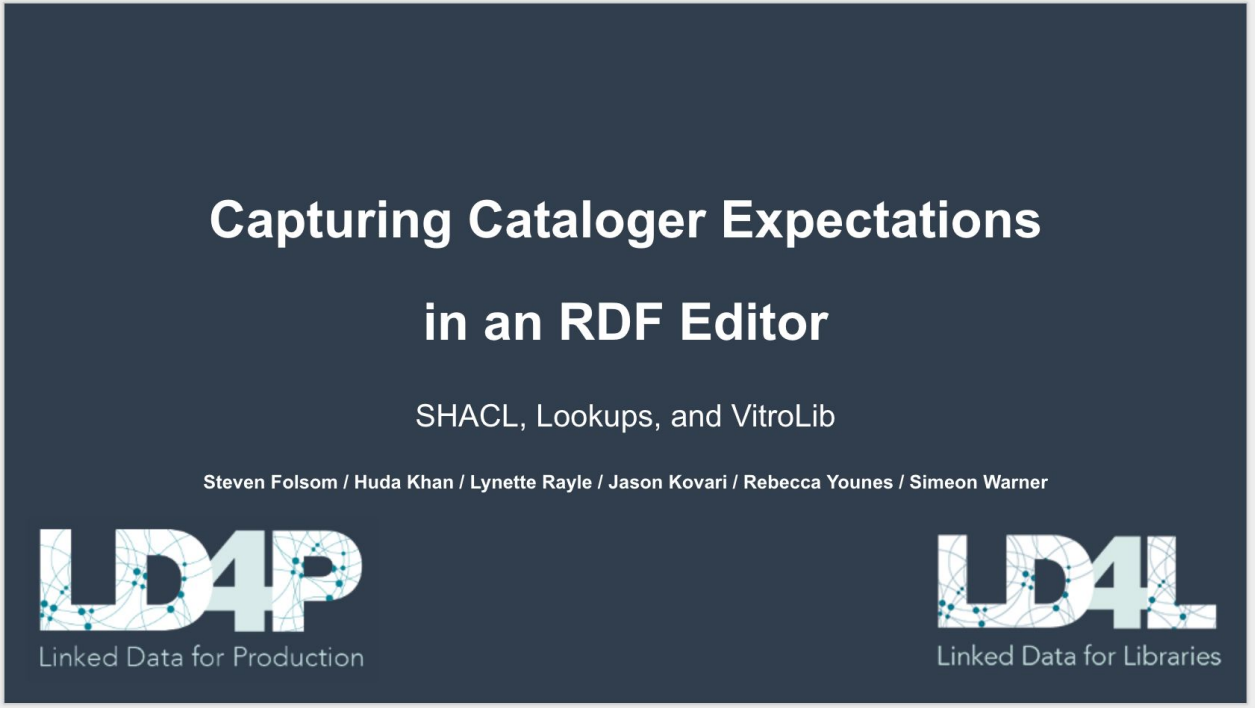
ls.ext RDF Cataloging Client

vimeo.com/192831354 / github.com/digibib/ls.ext

LD4P Project (and previous LD4L Labs)

Exploring the path to linked data for library catalogs...

Presentation:
11:00-11:25 Tuesday

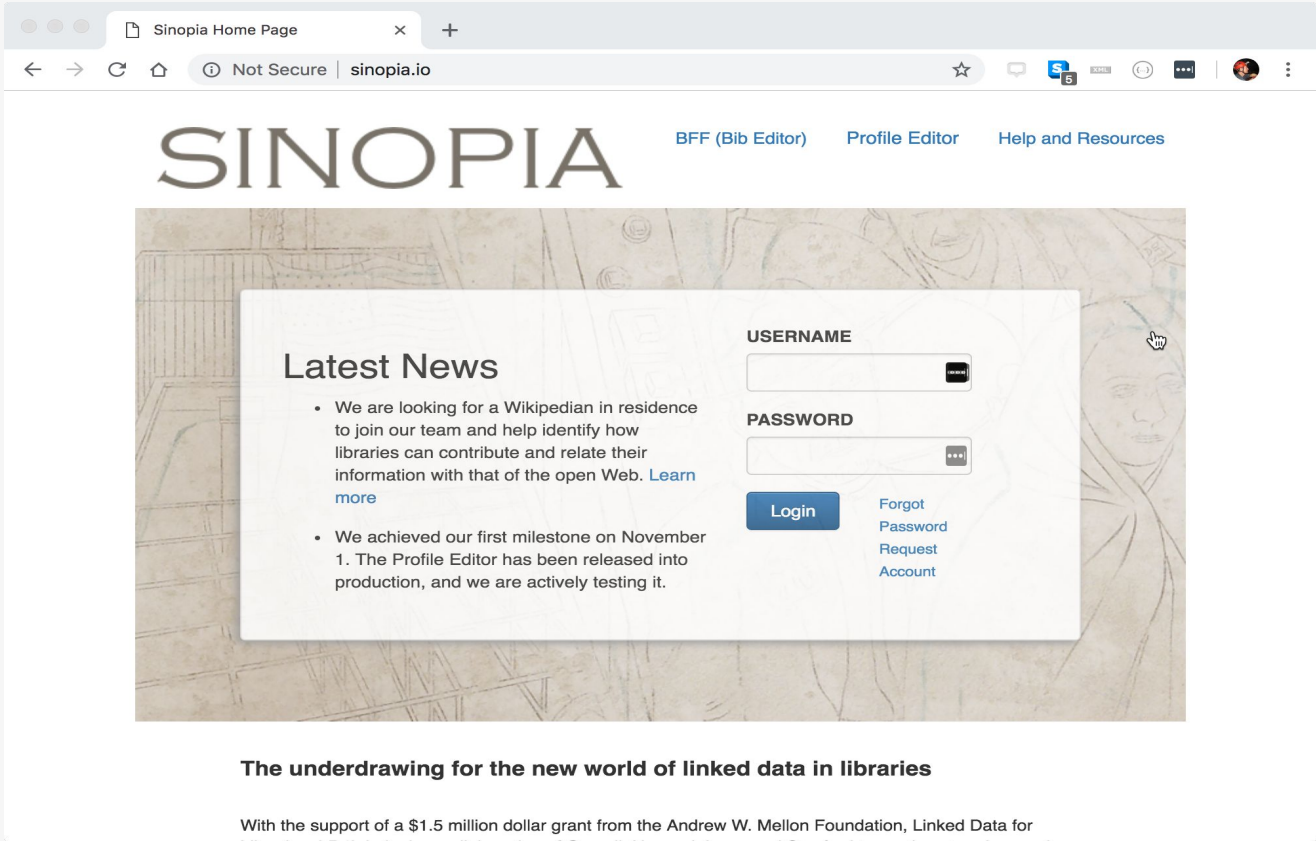


github.com/cmh2166/SWIB18LODintro

LD4P Project - Sinopia

Based on the Library of Congress's BIBFRAME Editor (BFE) and BIBFRAME Profile Editor projects, Sinopia is a linked data platform for original and cooperative cataloging using BIBFRAME and other vocabularies.

Minimal viable product (MVP) release scheduled in April 2019.



github.com/cmh2166/SWIB18LODintro

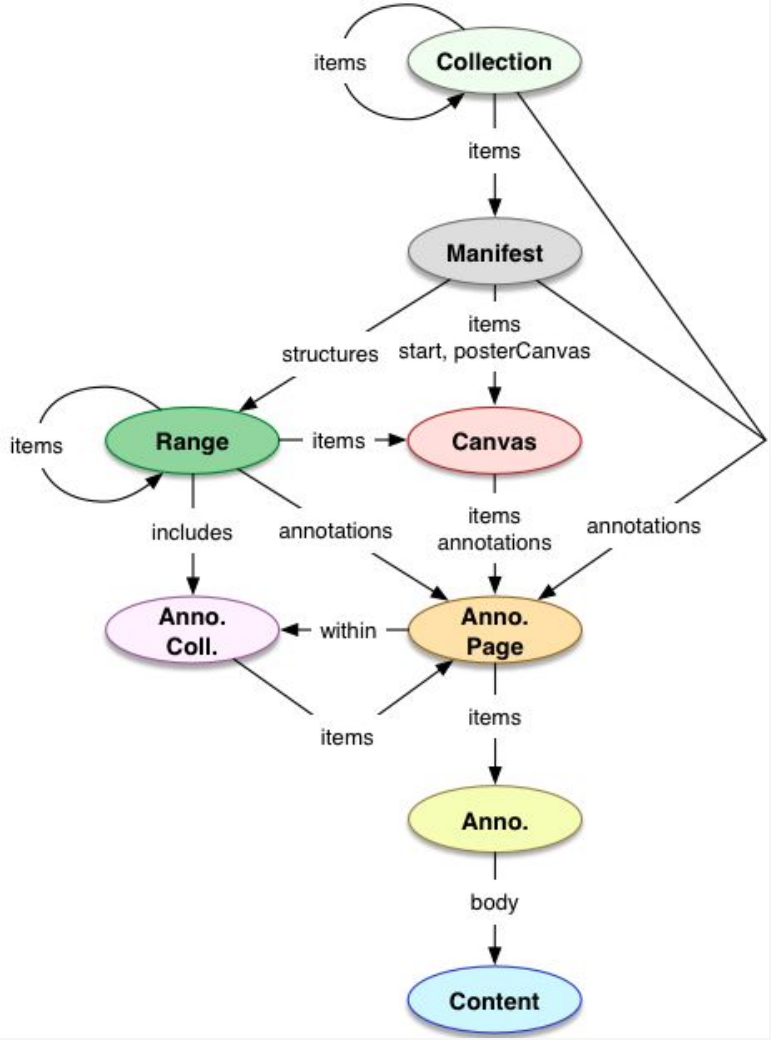
IIIF

A framework for interoperable and reusable images, audio and video.

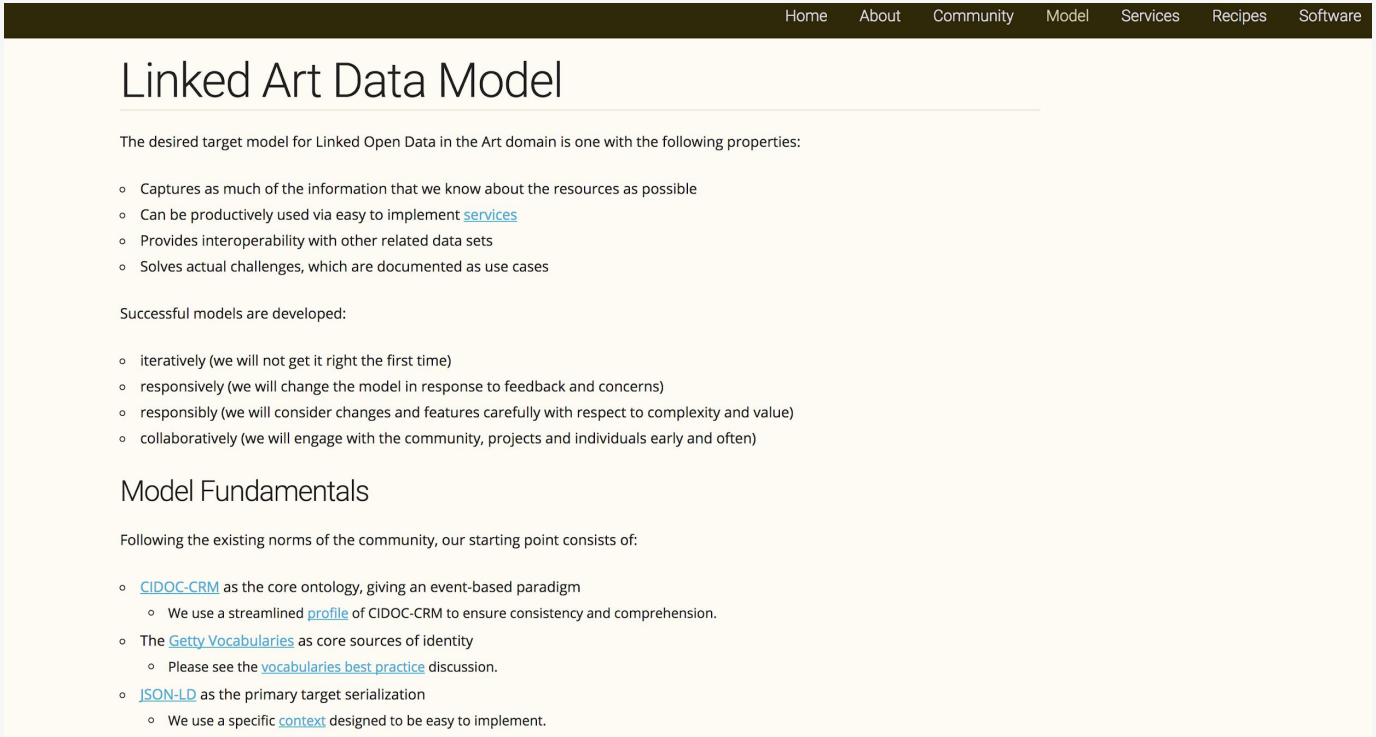
All data except content datastreams is RDF using JSON-LD with a specific context and framing:

- linked open data
- convenient for viewer developers who can treat as JSON.

See: https://iiif.io/api/

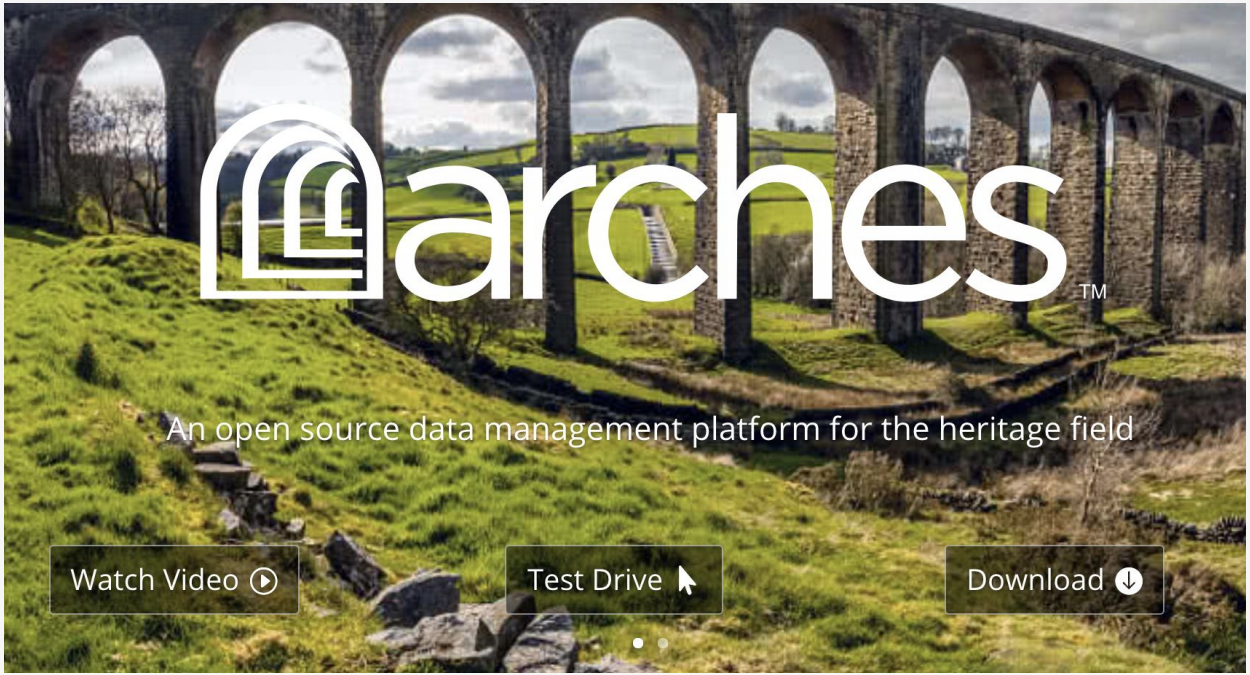


Linked.Art



http://linked.art/

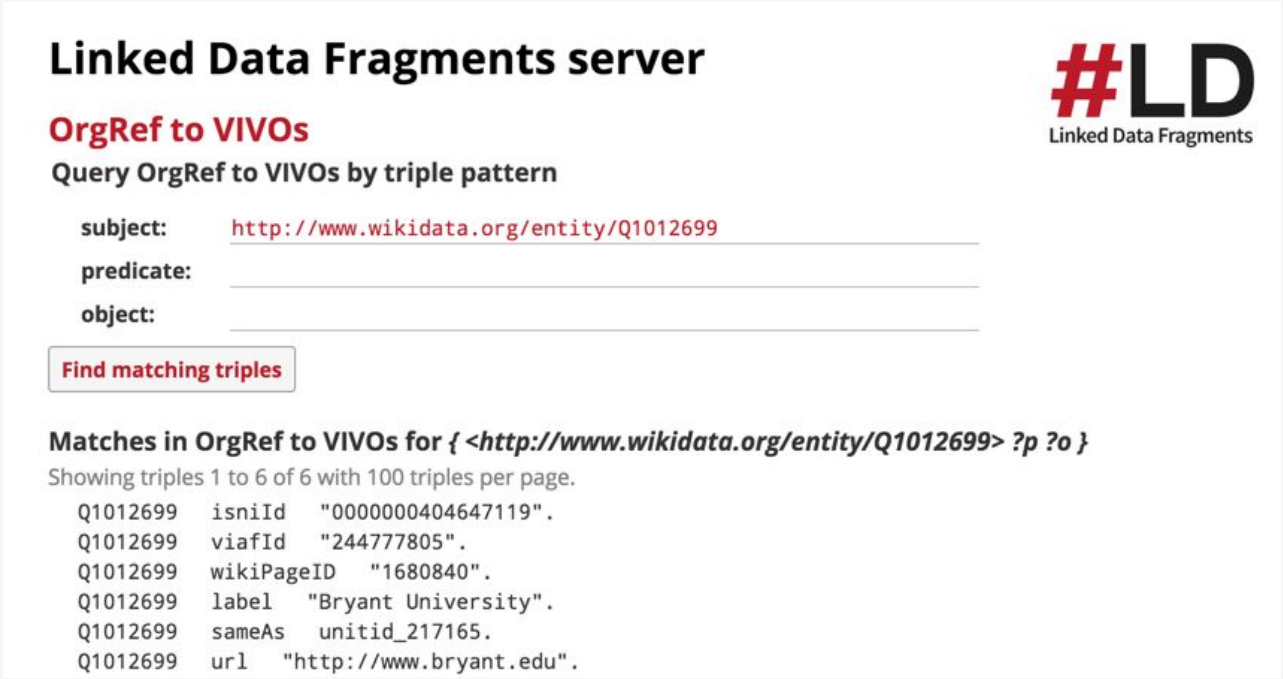
github.com/cmh2166/SWIB18LODintro



http://v4demo.archesproject.org/ &

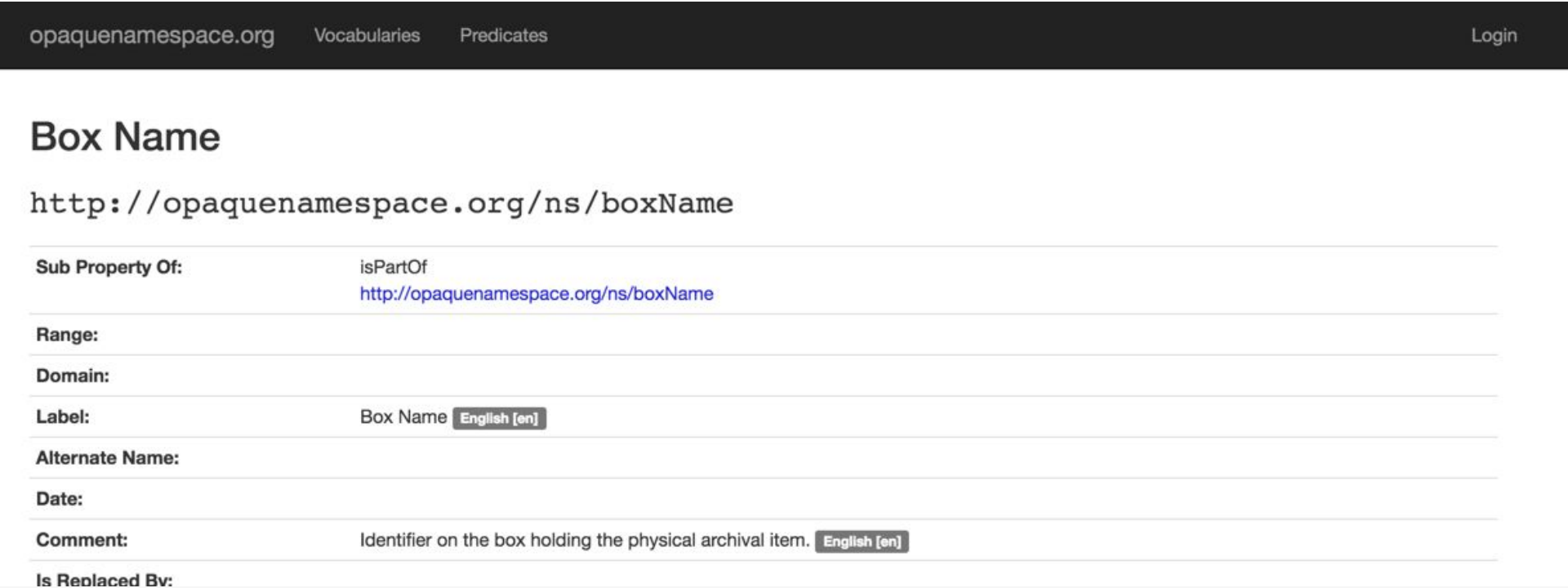
https://www.archesproject.org

LDF Server: OrgRef to VIVOs



ldf-vivo.herokuapp.com/orgref

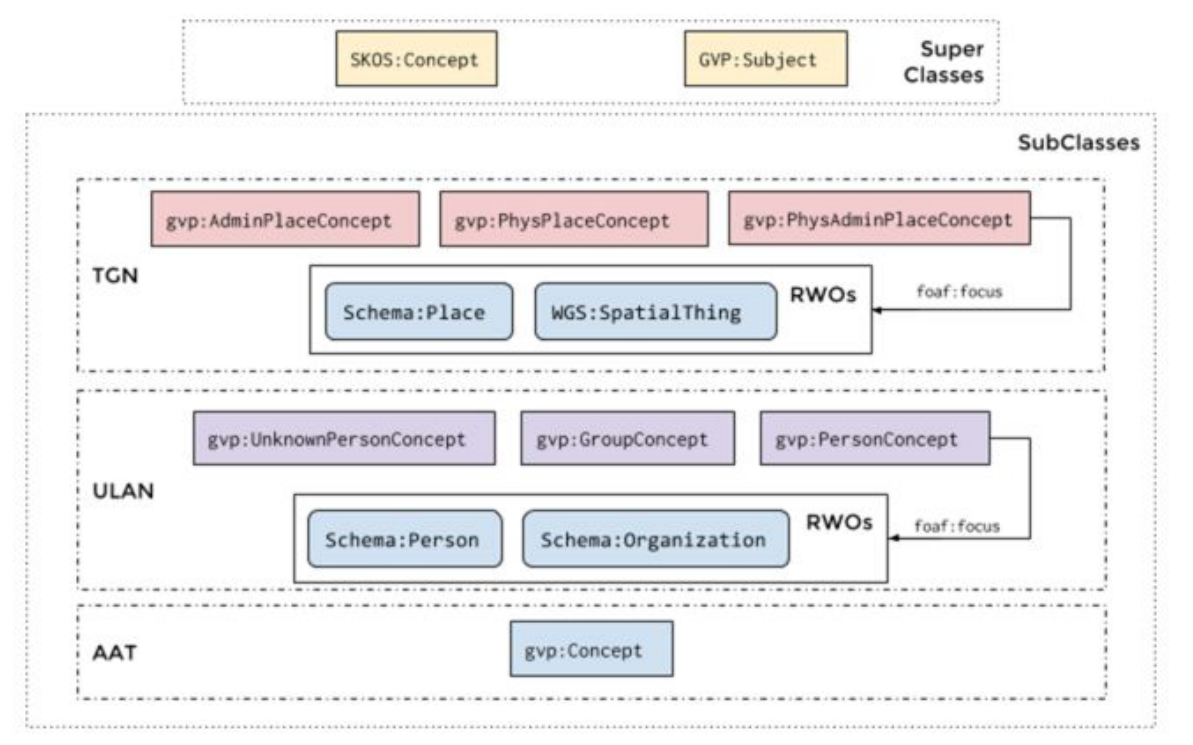
Opaque Namespace



opaquenamespace.org

github.com/cmh2166/SWIB18LODintro

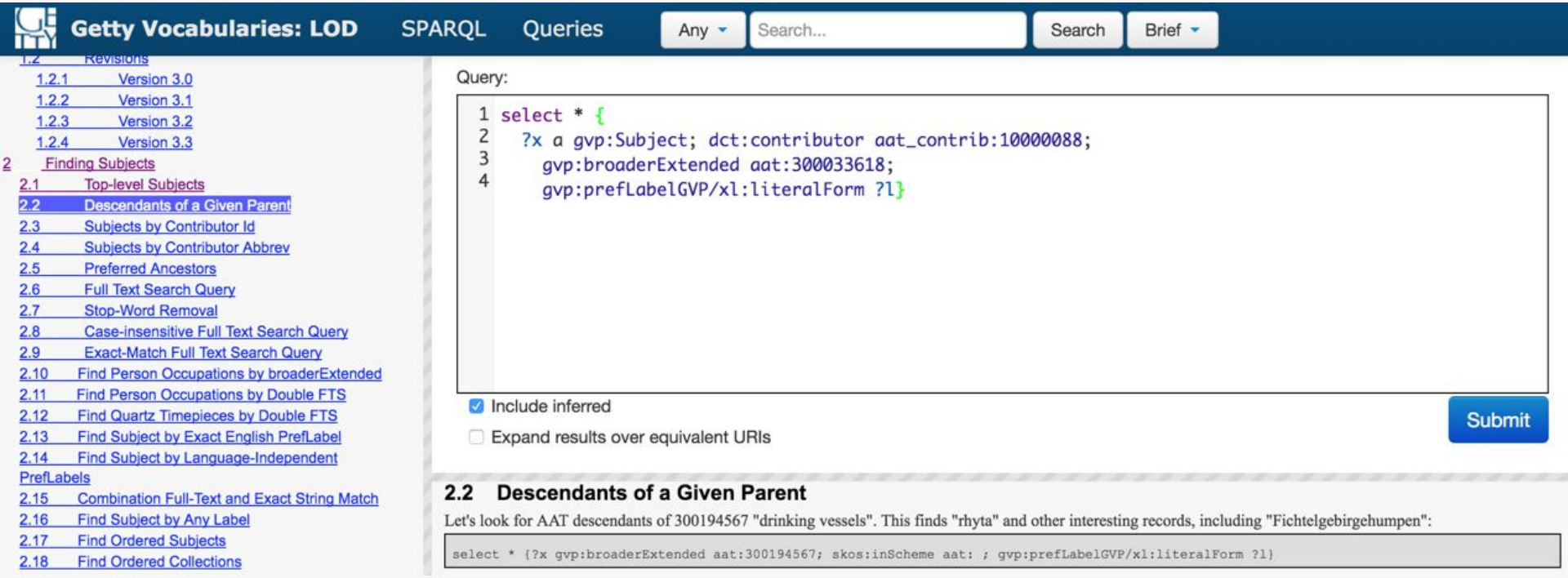
Getty Vocabs Model



vocab.getty.edu

github.com/cmh2166/SWIB18LODintro

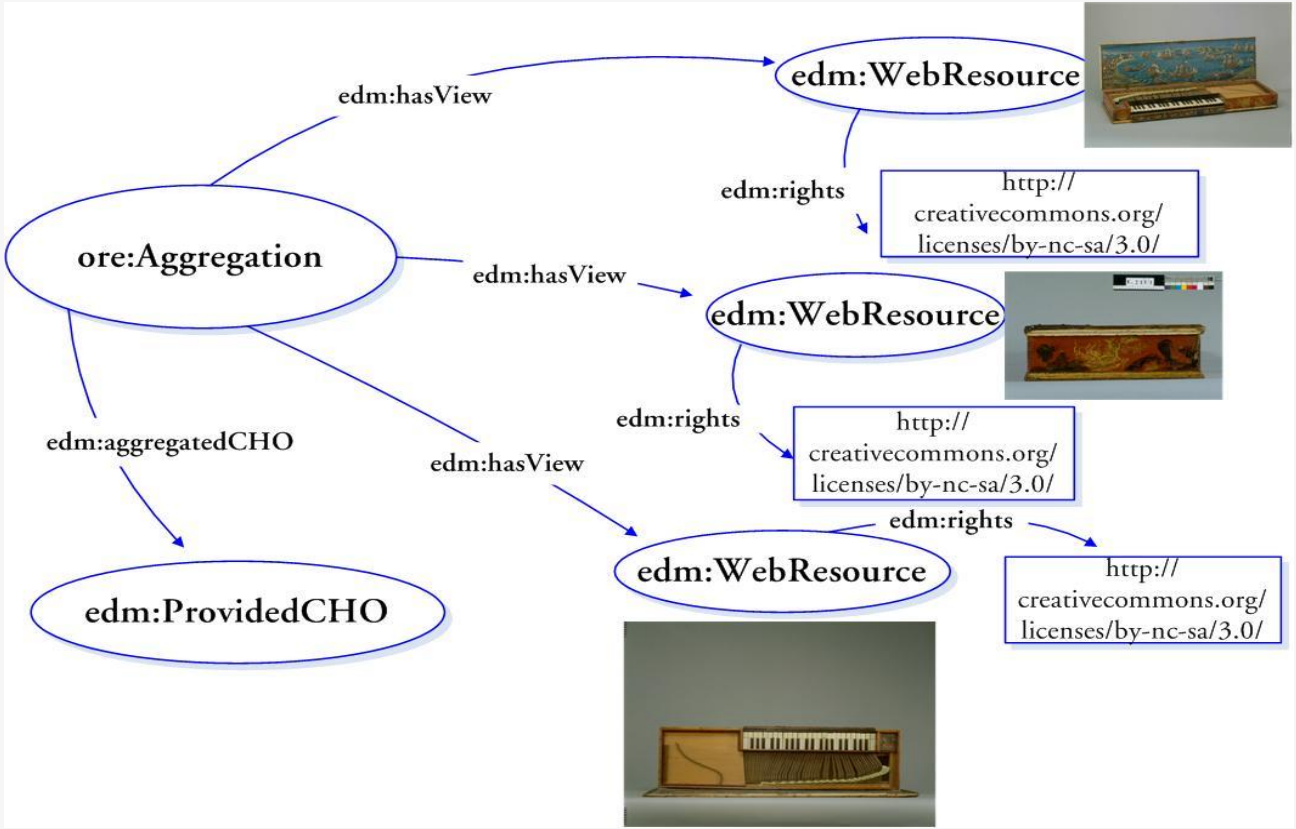
Getty Vocabs SPARQL Endpoint



vocab.getty.edu

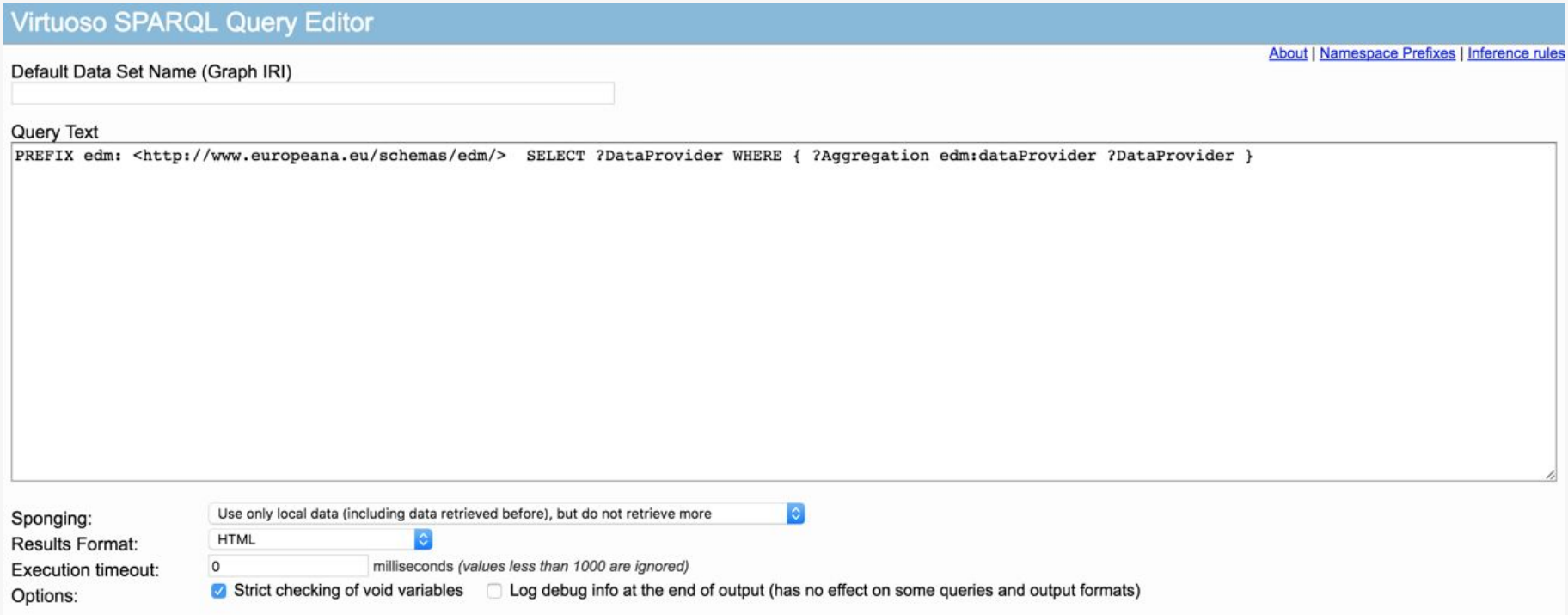
github.com/cmh2166/SWIB18LODintro

Europeana Data Model



http://pro.europeana.eu/page/mimo-edm

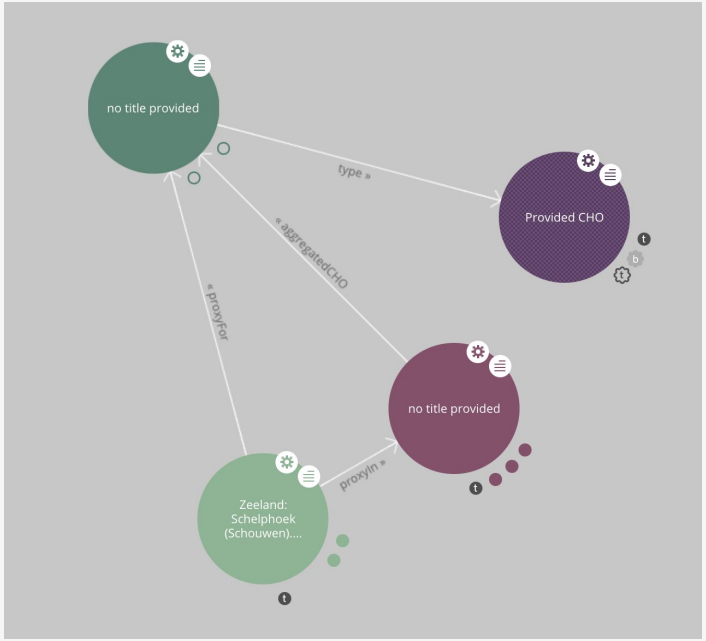
Europeana SPARQL Endpoint



sparql.europeana.eu/

github.com/cmh2166/SWIB18LODintro

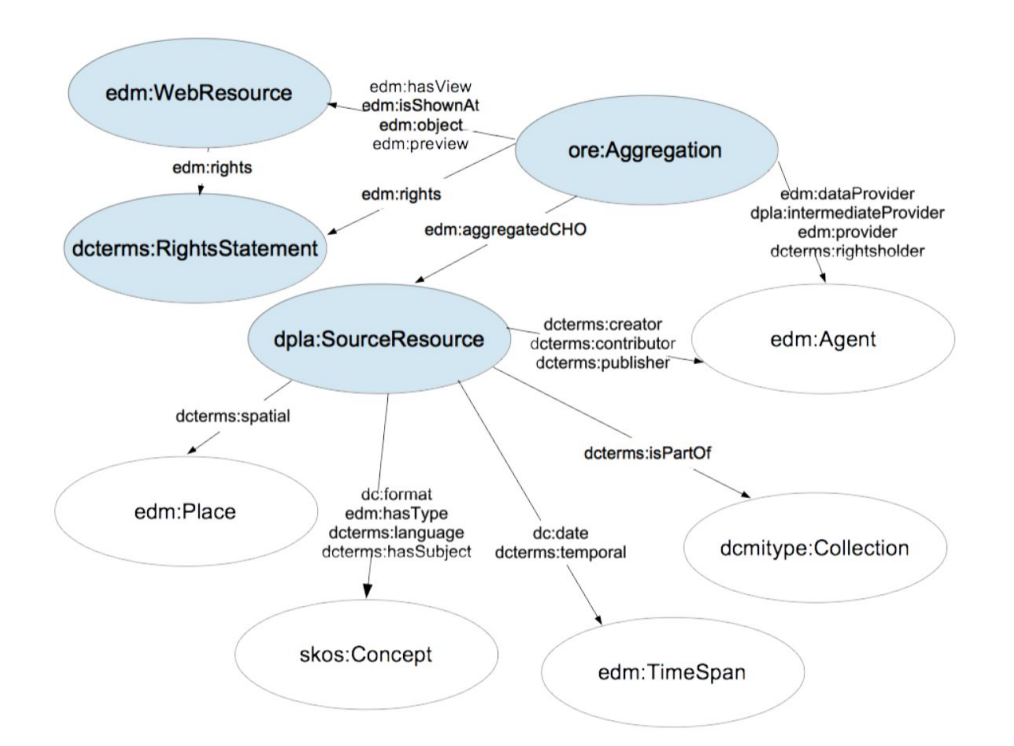
Europeana Exploration



[Visit our LodLive instance]

github.com/cmh2166/SWIB18LODintro

DPLA Model & MAP v.5



pro.dp.la/hubs/metadata-application-profile

DPLA Ingestion3

github.com/dpla/ingestion3

Moving Forward with Linked Open Data

github.com/cmh2166/SWIB18LODintro

Our turn!

Let’s discuss your potential uses of LOD. What projects could you see for using this? What support would you need to make it happen?

Checking Back In...

Returning to the Goals from the Introduction…

Do you feel like you learned what you expected? Needed? Remaining questions?

Participant goals

- Seeing the benefits -- what benefit is there to bringing boring library data into the linked data world?
- Responsible for a thesaurus, want to explore linked data
- Want to know whether RDF is an option for a digital asset management (DAM) system that has some licensing restrictions
- Putting together a recommendation engine for public libraries and would like to add layer of RDF data

Mini Workshop Retrospective

Pros	Cons
Good to practice hands-on	Want better wifi (always)
Good pace	Want more breaks
Relevant content	Want more practice
Seeing things in context	

github.com/cmh2166/SWIB18LODintro

Thank you!

Questions? Now and here or anytime to:

simeon.warner@cornell.edu
cmharlow@stanford.edu

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